Proposal # 2001- 1208	(Office Use Only)
Proposal # 2001	

Proposal Title: Delta Studies Program: Ser Judi Wilson, Director, Mailing Address: Telephone: (209) 468-4880	ce of Education Math & Science , CA 95213-9030
Fax: (209) 468-9170	
Fmail: jwilson@sicoe.nec	
Amount of funding requested: \$\frac{102,097}{202,097}\$ Some entities charge different costs dependent on t	the source of the funds. If it is different for state or federal
finds list below-	Federal cost
from collaborators ;	X YesNo h_Applicant agency and In-Kind & cash support r (\$39,000/3 yrs)
==== applying	σ (check only one box).
Indicate the Topic for which you are applying	Beyond the Riparian Corridor
n Natural Flow Regulates	- Cal Waleished Characterist
Name two Javasive Species	
Channel Dynamics/Sediment Transport	A CHARLE CHARLES SHIVEYS AND CHARLES
— Flood Management	Special Status Species out 79 and Research Fishery Monitoring, Assessment and Research
Shallow Water Tidal/ Marsh Habitat	Fish Screens
Contaminants	
	o can Joaquin
What county or counties is the project located in	in! Sail Source and iffe 25
What country of the	as a case offerhed list and indicate number. Be as specific as
What CALFED ecozone is the project locate possible Section One: San Joaquin	edin? See attached list and indicate number. Be as specific as - Sacramento Delta
Indicate the type of applicant (check only one XX State agency Public/Non-profit joint venture Local government/district University Other:	e box):

Indicate the primary species which the proposal addresses (check all that apply):							
San Joaquin and East-side Delta tributaries fall-run chinook salmon							
欧	Winter-run chinook salmon	名	Spring-run chinook salmon				
凤	Late-fall run chinook salmon	~	Fall-run chinook salmon				
改	Delta smelt	₹ P	Longfin smelt				
瑈	Splittail	轻	Steelhead trout				
瑈	Green sturgeon	各	Striped bass				
殔	White Sturgeon	烃	All chinook species				
弦	Waterfowl and Shorebirds	ŽĪ.	All anadromous salmonids				
1	Migratory birds	XI	American shad				
	Other listed T/E species:						
Indi	cate the type of project (check only one box) Research/Monitoring Pilot/Demo Project Full-scale Implementation): 	Watershed Planning Education				
	s a next-phase of an ongoing project? e you received funding from CALFED before?	Yes Yes	No <u>x</u>				
lfye	s, list project title and CALFED number						
Hav	Have you received funding from CVPIA before? Yes No_x						
lf ye	If yes, list CVPIA program providing funding, project title and CVPIA number (if applicable):						

By signing below, the applicant declares the following:

- · The truthfulness of all representations in their proposal;
- The individual signing the form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or organization); and
- The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section 2.4) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.

Ms. Judi Wilson, Director, Math & Science

Printed name of applicant

Signature of applicant

Krup 2 Best Superintenden



SAN JOAQUIN COUNTY OFFICE OF EDUCATION

May 15, 2000

Mr. David Baker County Administrator San Joaquin County 222 E. Weber Ave. Stockton, CA 95202



Dear Mr. Baker,

This letter is to inform you of the submission by the San Joaquin County Office of Education to CALFED for a CALFED Environmental Education Grant. Funds from the grant will be utilized to implement program described in abstract below:

San Joaquin County Delta Studies Program

Thirty thousand Kindergarten through twelfth grade students in sixty schools San Joaquin County will be targeted to meet the California Academic Standards through classroom lessons focused on the aquatic and terrestrial habitats and ecological functions of the Delta. Three major activities will accomplish this goal:

- A Delta Studies Curriculum which is age appropriate, academic standards based and focused on the twelve
 topic areas of the CALFED Bay-Delta Ecosystem Restoration Program will be developed and field tested.
 Curriculum units will be, interdisciplinary, and directed to each grade (K-8) plus one grade (9-12) unit
 adaptable to a variety of applications in high school. Units will be based on state recommended environmental
 education curricula A Child's Place in the Environment (K-6), and the California CLASS Project (7-12) but
 modified specifically for place based lessons that relate specifically to CALFED goals.
- 2. Ten kits of materials and equipment to support above curriculum will be developed and multiple kits of each will be made available for checkout by teachers from a **Delta Education Resource Center**, housed at the San Joaquin County Office. The Delta Education Resource Center will also act as clearinghouse for preview of supplemental materials to enhance above curriculum and environmental education and sponsor training of community personnel involved in action projects.
- 3. A cadre of teacher leaders will be trained called Delta Educational Leaders for Teaching and Action (D.E.L.T.A.) to forward the implementation of the Delta Studies Curriculum and provide leadership at targeted school sites for implementation of the curriculum and involvement of classes at their school in community action projects related to the curriculum. DELTA Teachers will receive a stipend for one year to participate in 30 hours of training to effectively implement the Delta Studies Curriculum at their school site with other teachers.

A copy of the proposal is attached. If you wish more information, please contact me at (209) 468-4880 or jwilson@sicoe.net.



SAN JOAQUIN COUNTY OFFICE OF EDUCATION

May 15, 2000

Ms. Kerry Sullivan
San Joaquin County Planning Commission
1810 E. Hazelton
Stockton, CA 95205



Dear Ms. Sullivan,

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A copy of the proposal is attached. If you wish more information, please contact me at (209) 468-4880 or jwilson@sjcoe.net.

Judi Wilson
Director Mat



SAN JOAQUIN COUNTY OFFICE OF EDUCATION

May 15, 2000

Delta Protection Commission 14215 River Rd. PO Box 530 Walnut Grove, CA 95690



Dear Delta Protection Commission,

This letter is to inform you of the submission by the San Joaquin County Office of Education to CALFED for a CALFED Environmental Education Grant. Funds from the grant will be utilized to implement program described in abstract below:

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A copy of the proposal is attached. If you wish more information, please contact me at (209) 468-4880 or jwilson@sjcoe.net.

Judi Wilson

Director, Mathematics and Science

Environmental Compliance Checklist

All applicants must fill out this Environmental Compliance Checklist. Applications must contain answers to the following questions to be responsive and to be considered for funding. <u>Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.</u>

Do any of the actions included in the proposal require compliance with either the California Environmental Quality Act

YES	NO
If you answered yes to # 1.	identify the lead governmental agency for CEQA/NEPA compliance.
Lead Agency	
If you answered no to # 1,	explain why CEQA/NEPA compliance is not required for the actions in the propos
	e is required, describe how the project will comply with either or both of these laws s in the compliance process and the expected date of completion.
Will the applicant require activities in the proposal?	access across public or private property that the applicant does not own to accompli
YES	

needs and permission for access with 30 days of notification of approval.

rocut		
LOCAL		
Conditional use permit Variance		
	_	
Subdivision Map Act approval		
Grading permit		
General plan amendment		
Specific plan approval	_	
Rezone		_
Williamson Act Contract		
cancellation		
Other		·
(please specify)	X	
None required	_	
STATE		
CESA Compliance		(CDFG)
Streambed alteration permit		(CDFG)
CWA § 401 certification		(RWQCB)
Coastal development permit		(Coastal Commission/BCDC)
Reclamation Board approval		
Notification		(DPC, BCDC)
Other		

(USFWS)

(ACOE)

(ACOE)

DPC = Delta Protection Commission CWA = Clean Water Act CESA = California Endangered Species Act USFWS = U.S. Fish and Wildlife Service ACOE = U.S. Army Corps of Engineers

Rivers & Harbors Act permit

CWA § 404 permit

None required

(please specify)

FEDERAL
ESA Consultation

Other _

ESA = Endangered Species Act
CDFG = California Department of Fish and Game
RWQCB = Regional Water Quality Control Board
BCDC= Bay Conservation and Development Comm.

Land Use Checklist

All applicants must fill out this Land Use Checklist for their proposal. Applications must contain answers to the following questions to be responsive and to be considered for funding. <u>Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.</u>

1.	Do the actions in the proposal inv or restrictions in land use (i.e. con	olve physical changes to diservation easement or plac	e land(i.e. grading, planting vegetation ement of land in a wildlife refuge)?	n, or breeching levees)
		•	· x	
	YES		NO	
2.	If NO to # 1, explain what type of	f actions are involved in th	e proposal (i.e., research only, plannin	g only).
3.	If YES to # 1, what is the propose	ed land use change or rest	iction under the proposal?	
4.	If YES to # 1, is the land current	y under a Williamson Act	contract?	
	YES		NO	
5.	If YES to # 1, answer the following	ıg:		
	Current land use Current zoning Current general plan designation			
6.	If YES to #1, is the land classified Department of Conservation Impo	l as Prime Farmland, Far rtant Farmland Maps?	nland of Statewide Importance or Uniq	ue Farmiand on the
	YES	NO	DON'T KNOW	
7.	If YES to # 1, how many acres of	land will be subject to ph	rsical change or land use restrictions u	nder the proposal?
8.	If YES to # 1, is the property curr	rently being commercially	armed or grazed?	
	YES		NO	
9.	If YES to #8, what are	the number of the total numbe		

10.	Will the applicant acquire any interest in land under the propos	
		X
	YES	X NO
11.	What entity/organization will hold the interest?	
12.	If YES to # 10, answer the following:	
	Total number of acres to be acquired under proposal Number of acres to be acquired in fee Number of acres to be subject to conservation easement	
13.	For all proposals involving physical changes to the land or rest will:	riction in land use, describe what entity or organization
	manage the property	
	provide operations and maintenance services	
	conduct monitoring	
14.	YES	X NO
15.	Does the applicant propose any modifications to the water righ	it or change in the delivery of the water?
	YES	NO NO
16.	If YES to # 15, describe	

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APPLICATION FOR				Applicant Identifier		
FEDERAL ASSISTANCE	E	2. DATE SUBMITTED		<u>дриоди полино</u>	1	
		5/15/00 3. DATE RECEIVED BY STATE		State Application Identifier		
1. TYPE OF SUBMISSION:	i i	S. DATE RECEIVED BY				
Application Pre	application Construction	4. DATE RECEIVED BY	FEDERAL AGENCY	Federal Identifier	ŀ	
Non-Construction	Non-Construction			<u> </u>		
5. APPLICANT INFORMATION			Organizational Unit:			
Legal Name:	. Office of Ta	Pugation	and of M	Math & Science		
San Joaquin County Address (give city, county, State, and	d zip code):	mcar tor -	Name and telephone of	number of person to be contacted on matt	ers involving	
1		5213-9030	this application (give a	rea code)		
PO Box 213030, Sto	ockton, CA 3.	7213 2000	(209)468-48	380		
6. EMPLOYER IDENTIFICATION N	IMPED /EIM)-			ANT: (enter appropriate letter in box)		
				[A]		
94 - 10 5 5 6	10101		A. State	H. Independent School Dist. I. State Controlled Institution of Higher L.	.eaming	
8. TYPE OF APPLICATION:	<u>-</u>	_	8, County C. Municipal	J. Private University	•	
New	Continuation	Revision	D. Township	K. Indian Tribe		
If Revision, enter appropriate letter(s	a) in box(es)		E. Interstate	L. Individual		
It Revision, enter appropriate lettoria		. L	F. Intermunicipal	M. Profit Organization		
A, Increase Award B. Decrea	se Award C. Increase	e Duration	G. Special District	N. Other (Specify)		
D. Decrease Duration Other(spe	ecify):		9. NAME OF FEDER	AL AGENCY:		
		<u>.</u>	CALFED			
		IMBED.	11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:			
10. CATALOG OF FEDERAL DOM	ESTIC ASSISTANCE N	OWIDER:				
	•					
TITLE: CALFED		·		dies Program: San Joa	quin	
12. AREAS AFFECTED BY PROJE	ECT (Cities, Counties, St	ates, etc.):	County Sc	hools		
San Joaquin County	У .					
110111101	4. CONGRESSIONAL D	ISTRICTS OF:				
Environmental Ed. Start Date Ending Date a			b. Project			
Citari Bailo	San Joaquin C	ounty Office	Delta Stu	dies Program N SUBJECT TO REVIEW BY STATE EX		
15. ÉSTIMATED FUNDING:	ogit oogdurn C	Marie Anna Anna Anna Anna Anna Anna Anna Ann			ECOUVE	
\$102,097 (per eac	h of 3 years)		ORDER 12372 F	PROCESS?		
a. Federal	\$		3 YES THIS PE	EAPPLICATION/APPLICATION WAS MA	DE	
	306,291		AVAILAB	ILE TO THE STATE EXECUTIVE ORDER	12372	
b. Applicant	\$ 39,000			PROCESS FOR REVIEW ON:		
c. State	\$	•	DATE _			
d. Local	\$	00	b. No. XI PROG	RAM IS NOT COVERED BY E. O. 12372		
e. Other	\$		ORPR	OGRAM HAS NOT BEEN SELECTED B'	Y STATE	
		∞				
f. Program income		17. IS THE APPLIC	CANT DELINQUENT ON ANY FEDERAL	DEBT?		
g. TOTAL \$ 345,291		Yes If "Yes," attach an explanation.				
18 TO THE BEST OF MY KNOW		ALL DATA IN THIS APPL	ICATION/PREAPPLIC	CATION ARE TRUE AND CORRECT, TH	E	
DOCUMENT HAS BEEN DULY	AUTHORIZED BY THE	GOVERNING BODY OF	THE APPLICANT AND	THE APPLICANT WILL COMPLY WITH	THE	
ATTACHED ASSURANCES IF T	THE ASSISTANCE IS AV	WARDED.		c. Telephone Number		
a. Type Name of Authorized Repr	esentative		(209) 468-4880	·		
d. Signature of Authorized Repres	entative	Deputy Supe	rintendent -	e. Date Signed		
d. Signature of Authorized Repres	De la		<u> </u>	5/11/00 Standard Form 424 (Rev.	7-97)	

State of California

DEPARTMENT OF WATER RESOURCES

. The Resources Agency
Agreement No.
Tubilit

Not Applicable/Environmental Education Proposal

STANDARD CLAUSES – GENERAL CONDITIONS FOR PUBLIC WORKS CONTRACTS

LICENSE. No bidder may bid on work for which it is not properly licensed by the Contractor's State License Board. Joint Venture bidders must possess a Joint Venture License. Bidders for this Agreement must have classification(s) of contractor's license, provide license number and expiration date and certify under penalty of perjury that the foregoing is true and correct.

EXAMINATION OF BID DOCUMENTS AND SITE. Bidder shall carefully examine site of work, plans and specifications. The bidder shall investigate conditions, character, quality of surface, or subsurface materials or obstacles to be encountered. No additions to the contract amount will be made because of the Contractor's failure to examine the site of work, plans and specifications.

SUBCONTRACTORS. (See Public Contract Code Section 4104.) The bidder shall set forth in its bid:

- a. The name and business address of each subcontractor who will perform work or labor or render services in an amount in excess of one-half of one percent (.5%) of the General Contractor's total bid; and
- The portion of work to be done by each subcontractor. (See Public Contract Code Section 4104.)

PAYMENT BOND. The Contractor shall furnish, concorrently with signing the contract, a Payment Bond to Accompany Construction Contract, Standard Form 807, in an amount not less than fifty percent (50%) of the amount of the contract when its bid exceeds \$5000. Such bond shall be executed by the Contractor and a corporate surety approved by the State.

WORKERS' COMPENSATION INSURANCE CERTIFICATION. Upon execution of the contract, the Contractor shall provide the State either with a certificate of insurance issued by an insurance carrier licensed to write workers' compensation insurance in the State of California, including the name of the carrier and date of expiration of the insurance, or a certificate of consent to self insure issued by the Director of the Department of Industrial Relations.

PREVAILING WAGE. It is hereby mutually agreed that the Contractor shall forfeit to the State a penalty of \$50 for each calendar day, or portion thereof, for each worker paid by it, or subcontractor under it, less than the prevailing wage so stipulated. In addition the Contractor further agrees to pay to each worker the difference between the actual amount paid for each calendar day, or portion thereof, and the stipulated prevailing wage rate for the same. This provision shall not apply to properly registered apprentices.

MAXIMUM HOURS. It is further agreed that the maximum hours a worker is to be employed is limited to 8 hours a day and 40 hours a week and the Contractor shall forfeit, as a penalty to the State, \$25 for each worker employed in the execution of the contract for each calendar day during which a worker is required or permitted to labor more than 8 hours in any calendar day or more than 40 hours in any calendar week in violation of Labor Code Sections 1810-1815, inclusive.

TRAVEL AND SUBSISTENCE PAYMENTS. Travel and subsistence payments shall be paid to each worker needed to execute the work, as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with Labor Code Section 1773.8.

APPRENTICES. Properly registered apprentices may be employed in the prosecution of the work. Every such apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he or she is employed, and shall be employed only at the work of the craft or trade to which he or she is registered. The Contractor and each subcontractor must comply with the requirements of Labor Code Section 1777.5 and any related regulations regarding the employment of registered apprentices.

SUBSTITUTIONS. Pursuant to Section 3400 of the Public Contract Code, should the Contractor seek to substitute a brand of materials other than specified, the Contractor shall submit data substantiating the request for substitution of "an equal" item. The substantiating data must be presented for approval within thirty-five (35) days after the award of the agreement. The State shall be the sole judge as to the comparative quality and suitability of "an equal" item.

Not Applicable/Environmental Education Proposal

ANTI-TRUST CLAIMS. The Contractor offers and agrees and will require all of his subcontractors and suppliers to agree to assign to the awarding body all rights, title, and interest in and to all causes of action they may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act [Chapter 2 (commencing with Sec. 165700) of Part 2 of Division 7 of the Business and Professions Code], arising from purchases of goods, services, or materials, pursuant to the public works contract or the subcontract. The assignment made by the Contractor and all additional assignments made by the subcontractors and suppliers shall be deemed to have been made and will become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgment or the necessity of tendering to the awarding body any written assignments.

If an awarding body receives, either through judgment or settlement, a monetary recovery for a cause of action assigned under Government Code Sections 4550-4554, the assignor shall be entitled to receive reimbursement for actual legal costs incurred and may, upon demand, recover from the public body any portion of the recovery, including treble damages, attributable to overcharges that were paid by the assignor but were not paid by the public body as part of the bid price, less the expenses incurred in obtaining that portion of the recovery.

Upon demand in writing by the assignor, the assignee shall, within one year from such demand, reassign the cause of action assigned under Government Code Sections 4550-4554, if the assignor has been or may have been injured by the violation of law for which the cause of action arose and (a) the assignee has not been injured thereby, or (b) the assignee declines to file a court action for the cause of action.

PROGRESS PAYMENTS

- a. Ten percent of any progress payments that may be provided for under this contract shall be withheld pending satisfactory completion of all services under the contract. The Contractor may substitute securities for such retentions and receive any interest accrued provided in Section 22300 of the Public Contract Code.
- b. No progress payments shall be made unless the Contractor, upon execution of the contract, furnishes a faithful performance bond for not less than one-half the total amount payable under the contract.

PAYROLL RECORDS. The Contractor and each subcontractor shall comply with Labor Code Section 1776 regarding payroll records.

NONCOLLUSION AFFIDAVIT. All bidders shall submit with their bids a signed and notarized Noncollusion Affidavit (DWR 4206).

LABOR CODE PROVISIONS. Pursuant to Sections 1770 et seq. of the California Labor Code, the Director of the State Department of Industrial Relations has made the general prevailing wage determination covering the locality where work for this contract is to be performed. A copy of the publication General Prevailing Wage Rates is on file for inspection at the State Department of Water Resources, Contract Services Office, 1416 Ninth Street, Sacramento, CA.

The Contractor agrees to post a copy of the General Prevailing Wage Determination for the locality of each job site. The Contractor also agrees to comply with all requirements of the California Labor Code and to pay the forfeiture penalties and monies which may become due as provided in Sections 1775 and 1813 of that Code.

UNDOCUMENTED ALIENS. No bidder or Contractor shall be eligible to bid for or receive a public works or purchase contract, who has, in the preceding five years, been convicted of violating a State or federal law respecting the employment of undocumented aliens.

Not Applicable/E	nvironment A	al Education Proposal greement No.:
•		Exhibit:
NONCOLLUSION AFFIDAVIT TO E BIDDER AND SUBMITTED WITH E		
STATE OF CALIFORNIA))ss	
COUNTY OF	}	
		, being first duly sworn, deposes and
says (name)		
that he or she is		of
	(position tit	le)
	(the bidds	2r) .
and has not directly or indirectly co bidder or anyone else to put in a sh that the bidder has not in any mann communication, or conference with bidder, or to fix any overhead, profit other bidder, or to secure any adva of anyone interested in the propose are true; and, further, that the bidd bid price or any breakdown thereof data relative thereto, or paid, and v	Iluded, consinam bid, or the ner, directly of anyone to fit, or cost elegantage againsed contract; the re has not, def, or the contwill not pay, an, bid deposition.	other bidder to put in a false sham bid, pired, connived, or agreed with any nat anyone shall refrain from bidding; or indirectly, sought by agreement, ix the bid price of the bidder or any other ment of the bid price, or of that of any st the public body awarding the contract that all statements contained in the bid lirectly or indirectly, submitted his or her ents thereof, or divulged information or any fee to any corporation, partnership, tory, or to any member or agent thereof By (Person signing for bidder) Subscribed and sworn to before me on
(Notarial Seal)	-	
DWR 4206 (New 4/90, Master Current 3/99)		. (Notary Public)

STATE OF CALIFORNIA

DEPARTMENT OF WATER RESOURCES

THE RESOURCES AGENCY

BIDDER'S BOND

We				.=.			_ <u></u>	
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'OTAL AMOUNT y and through the coney of the Unite	eld and firmly bound OF THE BID of the l Department of Wat d States, well and tr our heirs, executor	Principal abover Resources ruly to be ma	eve named so i, for the wor de, to the Di	ibmitted by s k described l rector of the	said Principal below, for the Department	to the State of payment of wi to which said b	f California, ac hich sum in lav old was submit	ing vfu ted
a no case shall th	e liability of the su	rety here un	der exceed t	he sum of \$		····	<u>.</u>	
	THE STATE OF THE S	CONDITION	ያ ለም ጥርብሮ ለ	ነድ፤ ፤ርኔልማቸርነ	או זפ פוורים			
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					* 1· P ·		•	
(Inser	name of city where b	ids will be one	ned)	—— , <i>,</i>	California, on	(Insert det	e of bid opening)	
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under the specifics he prescribed for performance and t null and void; other	FORE, If the aforestions, after the present in accordance with the other to guarant rwise, it shall be and WHEREOF, We have	scribed forms ith the bid, a see payment i remain in f	are present and files two for labor ma full force and	ed to him for bonds with aterials, as revirtue.	r signature, and the Department of the Departmen	inters into a w	ritten contrac	t, in hfiri
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NOTE: Signatures of those executing for the surety must be properly acknowledged.

STATE OF CALIFORNIA

NONDISCRIMINATION COMPLIANCE STATEMENT

STD. 19 (REV. 3-95)

COMPANY NAME

San Joaquin County Office of Education

The company named above (herinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, physical disability (including HIV and AIDS), medical condition (cancer), age (over 40), marital status, denial of family care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

Dr. Roger Reimer, Ph.D., Deputy OFFICIAL'S NAME	Superintendent	· · · · · · · · · · · · · · · · · · ·
5/11/00		
DATE EXECUTED	EXECUTED IN THE COUNTY OF	
Kozer Keimer	San Joaquin	•
PROSPECTIVE CONTRACTOR'S SIGNATURE Deputy Superintendent		
PROSPECTIVE CONTRACTOR'S TITLE		··-
San Joaquin County Office of Ed	aga tion	
PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME	404 t t 011	
•		

B. Title Page

Title of Project: Delta Studies Program: San Joaquin County Schools

Name: San Joaquin County Office of Education

Address: PO Box 213030

Stockton, CA 95213

Phone: (209) 468-4880 **Fax:** (209) 468-9170

Email: jwilson@sjcoe.net

Participants/

Collaborators: Agency, School District, & Organizational Collaborators

As Described Through Letters of Support Contained in Proposal

Organization: County Office of Education

(State Agency)

Executive Summary: Delta Studies Program: San Joaquin County Schools

Thirty thousand Kindergarten through twelfth grade students in sixty schools San Joaquin County will be targeted to meet the California Academic Standards through classroom lessons focused on the aquatic and terrestrial habitats and ecological functions of the Delta. Three major activities will accomplish this goal:

- 1. A Delta Studies Curriculum, which is age appropriate, and focused on the twelve topic areas of the CALFED Bay-Delta Ecosystem Restoration Program will be developed and field tested. Curriculum units will be, interdisciplinary, and directed to each grade (K-8) plus one grade (9-12) unit adaptable to a variety of applications in high school.
- 2. Ten kits of materials and equipment to support above curriculum will be developed and multiple kits of each will be made available for checkout by teachers from a **Delta Education Resource**Center, housed at the San Joaquin County Office. The Delta Education Resource Center will also act as curriculum clearinghouse for preview of supplemental materials to enhance environmental education and sponsor training of community personnel involved in action projects.
- 3. A cadre of teacher leaders will be trained called **Delta Educational Leaders for Teaching and Action (D.E.L.T.A.)** to forward the implementation of the Delta Studies Curriculum and provide leadership at targeted school sites for implementation of the curriculum and involvement of classes at their school in community action projects related to the curriculum. **DELTA** Teachers will receive a stipend for one year to participate in 30 hours of training to effectively implement the Delta Studies Curriculum at their school site with other teachers.

C. Project Description:

1. Statement of the Problem

a. Problem

Area Targeted: The Delta is crucial to California's water resources. Drinking water for two-thirds of California's residents passes through the Delta, a vital link in the state's water supply and a critical habitat area. Irrigation water for much of California's vast agricultural fields is drawn from the Delta, which receives runoff from the majority of Sierra Nevada and Coast Range watersheds. Although it comprises just one percent of California's total area, the Delta is at the heart of competing water needs and controversy and is integral to area agriculture, municipal water development and quality, and fish and wildlife viability.

The San Joaquin County Office of Education, in collaboration with area agencies, current and past project personnel from CALFED funded projects, organizations, and county school districts, proposes to embark on an ambitious, yet much needed effort that will educate area students and teachers about the Delta consistent with CALFED's mission to restore and maintain ecological health and improve water quality management for beneficial uses in the Bay-Delta system. One hundred and eleven thousand kindergarten through twelfth grade students in 162 schools and fifteen school districts in San Joaquin County will become adult residents and citizens in an area that requires understanding and appreciation. Students need to obtain basic scientific knowledge in order that they become responsible voters and effective stewards of this 700 mile maze of sloughs and waterways surrounding 57 reclaimed levied islands and the urban areas that comprise San Joaquin County, California.

San Joaquin County continues to experience significant residential growth and was recently designated a "minority-majority" county where 51% of the residents are people of color and 49% are Caucasian. Twenty two percent of students in schools are non or limited English speaking with the most prevalent language spoken other than English being Spanish. Since 1989, there has been a 21% jump in kindergarten through twelfth grade enrollment. With so many new students, increasing population at schools, and many new immigrants with limited English skills, San Joaquin County is ripe for education that will increase student understanding of the Delta to help them to be responsible and educated decision makers in the future.

The San Joaquin County Office of Education, with an elected Superintendent of Schools and a five member elected Board of Education, serves as liaison between the state and local school districts to actively and effectively link state policy to local programs and students. Primary functions of the County Office of Education are to: 1) assist schools in improving services to students, 2) support and oversee local school districts to ensure compliance with state laws, and 3) provide centralized services in areas such as budget management, data processing, curriculum and instruction, and technology

Educational Background: Basic science and attention to studies about public policy are primary to educating students about the Delta. Additional educational needs involve the ability of students to read and write and think mathematically. How can such an altered system such as the Delta

be managed to ensure water supply reliability while restoring the ecosystem? What is adaptive management? Why is biodiversity important? How can the results of efforts to restore the endangered species and habitat be measured? These questions are just a few that students can begin to address in their studies so that as adult citizens they can make responsible decisions about the Delta. Adaptive management is a mainstay in CALFED's ecosystem improvement program and can be taught by teachers and will be a valuable tool in learning how we can make the Delta a better place.

Yet, studies about the Delta and environmental education in general are not a core component of the California school curriculum. Environmental education is a hybrid of studies related to both science and social studies with secondary connections to both English-language arts and mathematics. Recent development of California Academic Standards for schools provide for direction in mathematics, English-language arts, history-social science, English language learning, and science, but none exist in California specifically for environmental education.

Haas and Lambert (1995), in an article published in the *Phi Delta Kappan*, emphasize the importance of students developing a "genius of place" whereby students are afforded the opportunity to be involved in their communities and become competent citizens through the "community as a focus of study." They also claim that "the world is altogether too abstract a concept to evoke the passion that one's own place does." The Pulitzer prize winning author Wallace Stegner expressed disappointment in his writing about not being taught anything about where he came from and how it devalued both the place and his own worth.

Schools in the county are mandated by the state to implement the academic standards and are intent on bringing up their scores on the Academic Performance Index, a "score" given to schools that reflects their performance on statewide achievement testing. A recent study by the State Education and Environment Roundtable (SEER) found that schools who provided environmental education and gave students opportunities to explore connections between subject area disciplines and among natural and social systems produced significant gains in student achievement and standardized testing in all academic assessments. Called EIC (Environment in Context) this study has significant implications towards forwarding environmental education in area schools who are required to improve test scores.

Teachers in county schools, however, are left to design environmental lessons with few resources and little direction. Quality curricula exists and is documented and described in the California State Compendia for Environmental Education, which rate the various curricula and provide information for teachers and schools. Yet, there is no easily usable source for teachers who wish to educate students about their "place," the Delta, but rather a potpourri of curricular materials that don't often fit within a cohesive whole. Teachers are also reticent to offer environmental education with no clear guide as to how the materials meet the various academic standards. Environmental education is often a "little bit of this" and "little bit of that" with no clear focus or direction across grade levels or within schools.

b. Conceptual Model

A conceptual model is provided in Appendix F.

c-e. Educational Objectives

The sixth annual National Environmental Education Training Foundation (NEETF)/Roper Knowledge and Behaviors in America (1997) suggests that the "more people know about the environment, the more clearly and objectively they can see a broader range of solutions." The Delta Studies Program proposes to embark on a three year project to accomplish the following:

Increase student and teacher knowledge at sixty targeted schools in San Joaquin County,
 California, of foundational concepts related to aquatic and terrestrial habitats, ecological functions, support of sustainable populations of plant and animal species, and the concept of adaptive management and stewardship, through studies about the Delta.

Major Activities to Accomplish this Goal are:

- 1. Develop a **Delta Studies Curriculum** consisting of ten curriculum units which are age appropriate, standards based, interdisciplinary and target the six goals of the CALFED Bay-Delta Ecosystem Restoration Program.
- Units will be appropriate for five days instruction per year at two hours per day or ten hours total of classroom instruction spread over a longer time.
- One unit of study will be developed per grade level Kdgn.-8th grade and one unit for grades 9-12 that can be utilized in a variety of high school courses for a total of ten units.
- A Child's Place in the Environment for K-6, and California CLASS Project (7-12) will provide a base for curriculum design and ideas for activities along with additional activity ideas derived from quality environmental education curricula described in each California Compendia for Environmental Education (Appendix A) and listed in the Bibliography.
- Each grade level unit will also offer suggested action projects appropriate for in the classroom or school site or off site at funded CALFED research and other community projects. Selected students and teachers in fifteen schools nearest to selected projects in years two and three will be assisted to enhance developed curriculum with involvement in monitoring or field experiences.
- 2. Develop and maintain a **Delta Education Resource Center** at the San Joaquin County Office of Education in Stockton, California
- Develop one kit per unit of curriculum comprised of materials and equipment to support the above developed curriculum and house multiple copies of each kit at the San Joaquin County Office of Education that will be available on a check-out basis to teachers for use in implementing the curriculum. Kits will consist of large plastic containers with all materials for teaching the unit contained within.
- Additional resource materials to support above curriculum will be available to teachers at the Delta.
 Education Resource Center, such as additional curriculum guides, support materials, educational
 software, posters, teacher background resources, literature, appropriate equipment, and an internet
 connected computer with printer with bookmarks to internet resources that will enhance the Delta
 Studies Kits.

- 3. Recruit, identify, train and support a cadre of 30 teacher leaders each per years Two and Three called **Delta Educational Leaders for Teaching and Action (D.E.L.T.A)** to forward the above two activities and provide training to other teachers and schools.
- * Each DELTA Teacher will receive a stipend to act as a catalyst for utilization of the curriculum at targeted school sites, serve as liaison between project personnel and the school and train other teachers at the site on units appropriate to their grade level. Sixty total teachers will serve in this capacity and DELTA Teachers will serve for one year.
- Thirty hours of training will be provided to each of the DELTA Teacher Leaders to prepare them for their role and help to implement the Delta Studies Curriculum at the site during five evening (4-7pm) meetings and during two Saturdays during the year. University credit will also be offered for the training.
- Three hours of training will also be offered the principal at the targeted site for a total of thirty principals during each of Years Two and Three.

Alignment with CALFED's ERP goals: The Delta Studies Curriculum and the accompanying action projects will embody the ERP goals. More information about specific connections is provided in Section D of this proposal. The Delta Studies Curriculum will utilize A Child's Place in the Environment for grades K-6 described in Appendix B and the California CLASS Project for grades 7-12 described in Appendix C as a source of possible concepts and a format for the curriculum. Lesson ideas will be derived from the above two curricula plus quality environmental curricula described in the California Environmental Education Compendia (Appendix A) published by the California Department of Education.

Targeted Audience: Several groups will benefit from this broad reaching plan:

- All 120 San Joaquin County schools will have access to the Delta Studies Curriculum in electronic version via a proposed website.
- Thirty schools in the county in each of Years Two and Three of the project (total sixty schools) will be selected for more intensive implementation with the provision of a teacher leader (Delta Educational Leaders for Teaching and Action-D.E.L.T.A. Teachers) and assist to implement the program schoolwide at every grade level. Thus, 15,000 students (@ appr. average of 500 per school) will receive instruction with the curriculum per year during Years Two and Three of the project.
- Elementary, middle & high schools targeted. Of the thirty schools per year, three will be high schools, three will be middle schools and the remainder (24) will be elementary only K-5 or K-8 schools. Schools will be selected by demonstrated interest, the availability and sponsorship of a motivated teacher leader, their proximity to available off site action projects and their Academic Performance Index score (with preference given to lowest performing schools in order to raise student achievement).
- All schools will do action projects as part of curriculum, but fifteen of the thirty schools in Years
 Two and Three will receive special assistance to perform an action project related to the developed
 curriculum. Action projects will be on site with the use of an internet connection, school garden, or

a simple classroom project, or be off site connected to a CALFED research project or other Delta related project. Schools who are near projects targeted in this proposal will be selected for off site work so as to facilitate transportation availability. Each of the fifteen selected schools will be assisted for involvement in at least one action project that will be selected and facilitated with help of school principal and site DELTA teacher leader.

- Thirty teacher leaders (DELTA Teacher Leaders) per each of Years Two and Three will receive thirty hours of training on the Delta Studies Curriculum during five evening (4-7pm) sessions and Saturdays (2) and serve as catalyst at their school site for schoolwide implementation. DELTA Teachers will receive a stipend to serve as liaison to the staff and work with the principal to provide training on each unit to the staff and help to collect data for the project.
- <u>Thirty principals</u> at targeted sites will receive three hours of instruction on the Delta Studies Curriculum and information on how to support the curriculum on site.

2. Proposed Scope of Work

a. Location

All work will be conducted within San Joaquin County, California under the auspices of the San Joaquin County Office of Education in collaboration with program partners and resource personnel. During Year One of the project, all work will occur at the San Joaquin County Office during development of the Delta Studies Curriculum by the development team. During Years Two and Three, work will occur at school sites and at sites of action projects around the county.

b. Approach

The overall approach of the Delta Studies Program is intended to build *capacity* for ongoing education to improve the knowledge base of present and future stakeholders in the Bay-Delta improvement process. Students at targeted schools will be provided standards based education through the provision of a **Delta Studies Curriculum** provided by teachers at schools led by a teacher leader (**D.E.L.T.A. Teachers**) who assists with the implementation with curriculum materials accessed from the **Delta Education Resource Center**.

This is a well laid out plan to 1) train teacher leaders who will continue to share their enthusiasm and knowledge with students, teachers and schools for years to come, 2) provide enhanced, place-based and Delta focused education to area students K-12 who will become future citizens and voting members of society and 3) compile curriculum and resources at one county repository for schools/teachers who wish to access the Delta Studies curriculum.

Pedagogy Focus & Content Focus of Curriculum: All lessons will be hands-on and conceptually based in that they build "big ideas" that reflect the systemic approach needed for attention to adaptive management processes. Solutions are not easy, decisions are often the result of working through dilemmas and knowledge requires a compilation of many facts and bits of information that are interdisciplinary and reflect a variety of standards in a variety of disciplines. A "Unifying Concept" as an outcome for the entire curriculum, along with one "Grade Level Concept" for each grade level will be developed (K-12) by a core team of teachers and representatives from partner agency personnel. An example of concept based teaching can been viewed in Appendix D which describes A Child's Place in

the Environment. All lessons developed for the curriculum will contribute towards student learning related to the concepts set forth for each grade level. There will be enough lessons for 10 hours of classroom instruction.

The curriculum will be based on California Academic Standards and will utilize the Point of View of Environmental Education for California (Appendix E) as a guide to present an unbiased, balanced, yet academic content based approach that forwards foundation learning related to the Delta.

Curriculum Developers: Delta Curriculum Studies developers will be selected to design the focus of the grade level units who will 1) have expertise in science and social science and 2) are experienced in environmental education and 3) are familiar with lessons and programs contained with the California Department of Education's Environmental Education Compendia. The development group will 1) identify key foundational learning about the Delta consistent with CALFED goals, 2) delineate key concepts for each grade level (K-12) and 3) develop lessons from ideas in already developed exemplary environmental education curricular programs. Lessons will not be copied from these curricula, but ideas will be gathered for possible lessons for the Delta Studies Curriculum.

At least thirty curriculum developers will be recruited. Two teachers from each grade level K-8 and four teachers from high school representing the disciplines of English, civics, biology and chemistry will be selected to assist with curriculum development. Agency representatives from the following will also be recruited:

U.S. Army Corp of Engineers

California Department of Fish and Game

U.S. Fish & Wildlife Service

National Marine Fisheries Service

State Water Resources Control Board

U.S.Bureau of Reclamation

Environmental Protection Agency

National Fish & Wildlife Federation

National Resource Conservation Service

U.S. Department of Agriculture

Additional representatives will also be recruited from local agencies and organizations such as:

City of Stockton, Dept of Public Works

University of the Pacific Faculty

Delta Keeper

Univ. of California Extension

Water Education Foundation

Sierra Club

County Of San Joaquin, Dept. of Public Works

Delta College Faculty

Farm Bureau

Water Districts within San Joaquin County

Audubon Society

Delta Protection Commission

Adopt-A-Watershed

Curriculum developers will be given information from the PSP, Section 3.3 as background information in developing the curriculum and be directed towards the CALFED goals as targets for lessons (further described in Section D1).

Interdisciplinary, Action Oriented Focus: The Delta Studies Curriculum lessons will incorporate science, social studies and English-language arts. Each of the curriculum units will contain a list of action projects that students and teachers can participate in that is either on site (especially for very young students) or off site (older students). An attempt will be made to draw upon present and former CALFED projects and involve teachers and students in monitoring and assessment projects related to

CALFED targeted topics. Personnel from these projects will be contacted and requested to sponsor a class of students and teacher who wishes to participate. A two hour training will be offered CALFED project personnel along with partner teachers targeted towards involving students, organizing the experience to derive maximum education benefit and ways to target the concepts contained in the Delta Studies Curriculum.

c. Monitoring and Assessment Plan

All project evaluation will be ongoing and will reflect input from all partners in the project. Success towards overall goal of project will be measured through evaluation of student work, teacher responses and program partner input. The **Delta Studies Curriculum** will be field tested Year Two with thirty schools and revised for use during Year Three based on input from teachers in targeted schools. Rubrics, portfolios, questionnaires, and other assessment tools will be utilized to measure progress towards deliverables.

d. Data Handling and Storage

All program materials developed, evaluation data and project products will be housed at the Delta Education Resource Center under direction of the Project Director and supervised by the Project Coordinator. The **Delta Studies Curriculum**, as well as information about the project and a list of all of the materials, curriculum and equipment available for check-out through the **Delta Education Resource Center** will be listed on the website.

e. Expected Products/Outcomes

Dissemination for the project will consist of provision of a special page on the San Joaquin County Website specifically designed for the **Delta Education Resource Center**, which provides for the 1) publication of the **Delta Studies Curriculum** on the web, 2) lists all available resources for check-out to county schools of resources in the **Delta Education Resource Center**, 3) publication of a special list of possible action projects and their contact personnel for area teachers to become involved in with their classes and 4) links to environmental resources and related state agencies and organizations. Website developer and maintainer will keep the information current and enlarge the site throughout the duration of the project.

f. Work Schedule

The Delta Studies Program is a three year project designed to begin in October of '00 and end in June '03. It is divided into four distinct project phases, each of which contributes to the overall success and ongoing sustainability of the project as follows:

Task	Deliverables	Beg. Date	End Date
Recruit, Select & Train	1. Roster of Delta Studies Curriculum developers that	Oct. '00	Nov '00
Curriculum Development	includes at least 2 teachers per grade level (K-8) + 4		
Group	high school teachers + eight agency personnel/ partners.	1	
	(30 total)		
Develop Delta Studies	1. Delta Studies Curriculum which provides one unit	Jan '01	Ongoing
Curriculum	encompassing 10 hours of lessons that is conceptually		

		<u> </u>	
	based and targets CALFED goals. Curriculum will be		
Y 1 (6)	revised in June "02 before publishing on the Website.	1	
Identify Action Projects	1. List of action projects either off site or suggestions	Jan '01	June '03
Suitable for Delta	for on school site appropriate for each grade level with		
Studies Curriculum	contact person and description. List will be revised		
	yearly		
Phase Two: Delta Educa		·	
Task	Deliverables	Beg. Date	End Date
Develop Kits for Delta	Kits of curriculum materials to support the Delta	June '01	Ongoing
Studies Curriculum	Studies Curriculum units that are available for check out		
	to schools and teachers. Ample copies of Kits will be		
	available so that several schools can implement at one		
···	time.		
Gather Additional	1 List of supporting/supplemental materials provided to	Sept. '01	Ongoing
Materials for Preview	teachers/schools that are available for preview or are		
and Inclusion into Delta	additional and enhancing to the Delta Studies		
Studies Curriculum	Curriculum.		
	2Provide computer with internet connection, printer and		
	bookmarks for use at SJCOE.		
Phase Three: Delta Educ	ation Leaders for Teaching and Action		
Recruit and Select Thirty	1. List of schools involved in program per year for	Sept. '01	June '02
Schools Per Year for	intensive implementation.		
Intensive Implementation		Sept. '02	June '03
of Delta Studies			
Curriculum			
Recruit and Select ONE	1. List of one teacher per school who will act as leader	Sept. '01	Oct. '01
Teacher Leader per	of project at school and receive special trng.		
above school for		Sept. '02	Oct. '02
D.E.L.T.A. group			
Provide Introductory	Weekend retreat provided to Teacher Leaders	Aug '01	Aug '01
Training for ONE	(D.E.L.T.A group) about Delta Studies Curriculum,	-	
Teacher Leader per	standards connection and science content. (Fri eve/all	Aug. '02	Aug '02
school	day Sat= 15 hours)		
Provide Ongoing	Two Sats during year (Oct & April) provided for	Oct. '02	Apr. '02
Support and	ongoing trng. and troubleshooting(15 hours)		*
Troubleshooting for		Oct '03	Apr. '03
Teacher Leader			-

D. Applicability to CALFED ERP Goals and Implementation Plan and DVPIA Priorities1. ERP Goals and DVPIA Priorities

The Delta Studies Curriculum and Kits, developed during Year One of the project, will target the CALFED ERP Goals. A team of teachers, agency personnel, organizational representatives and a facilitator will serve as the development team. The following will be provided as a possible starting point for the development team.

CALFED Goal	Possible* Focus for Delta Education Curriculum and Action Projects for Students by Grade Level Spans	Possible Grade
	* ALL will not fit into a 10 hour curriculumthese suggested topics	Levels
	for Curriculum Team to consider during development	
1. At-Risk Species	*Learn about and identify flow-related barriers to fish migration of	7-12
-	various targeted species.	
	*Explore and consider effects of habitat availability and quality for	
	various life stages of fish	
	*Learn of various contaminants such as nitrates, selenium, mercury,	
	pesticides, hydrocarbons, and other metals and their effect on at-risk	
	species and especially andranomous fish populations.	
	*Become familiar with targeted species such as delta smelt, chinook	
	salmon, steelhead trout, Sacramento splittail and observe how species	
	respond to ecosystem functions	
	*Learn of hydrologic and biologic relationships and investigate and	
	receive information on fish passage flows past flow related barriers	
	*Learn of role of agriculture (ie: diversions) in relation to at risk species.	
	*Learn how at risk species are dependent on Delta and ways to produce a	
	large self sustaining population	
	*Learn about efforts to protect endangered species and how to provide	
	reliable supplies of water.	
2. Ecosystem	*Explore aquatic toxicity and its effect on the health of the Delta	5-6
Processes and Biotic	*Learn of rehabilitation, rather than restoration activities, for terrestrial	
Communities	biotic communities	
	*Explore and investigate efforts to protect native members of Delta	
	communities	
	*Begin to understand how physical and chemical processes have been	
	fundamentally altered by human communities.	
	*Begin to learn of channel dynamics and its effect on the Delta.	
3. Harvestable	* Included in above	5-12
Species		
4. Habitats	*Introduction to Floodplains and their role in the health of the Delta	K-5
	*Explore living things in tidal and freshwater	
	*Understand the importance of revegitation projects (riparian habitat)	
	*Understand how plants support different species	
	*Investigate recovery of endangered and wild species (fish/ducks)	
·	*Learn of tidal & freshwater wetlands as critical areas for key species	
	*Examine and learn of the e salt march, riparian forest, and freshwater	
	wetlands	-·- <u>-</u>
5. Non-Native	*Explore importance of mapping of non-native species	7-8
Invasive Species	*Learn of efforts and importance of eradication of non-native plant and	
	aquatic species	
	*Learn difference between native and non-native species.	
	*Identify and learn of non-native types such as Tamarisk, Arundo donax,	
	,Spartina spp., Egeria spp., the Chinese Mitten crab, water hyacinth	
·	Asian clam and their effect on native species.	
	* Learn of influence of ship ballast, introduction of northern pike,	
	aquarists such as Hydrilla and their impact on native species	

6. Sediment and	*Introduce Water Monitoring and assessment projects	6-12
Water Quality	*Learn of river/floodplain interaction and riverine health	
	*Learn of dams/levees and their role in Delta health	ĺ
	*Learn of importance of elimination of toxics impacts on organisms in	
	system	
	* Learn of Delta's role in drinking water, agriculture and fish and	
	wildlife habitat	

2. Relationship to Other Ecosystem Restoration Projects

Delta Studies Curriculum/Action Projects: The Delta Studies Curriculum will include suggestions for action projects that students and teachers can become involved in. Several of the action projects will be related to past and current CALFED funded projects. A sample of those projects is supplied as follows, and additional selections will be added in conjunction with curriculum development team ongoing throughout project under direction of Community Outreach Coordinator.

To impart a commitment of stewardship, it is necessary to invest students with a "sense of place," or, a love of a place and the organisms living there. The county of San Joaquin has numerous waterways in the Delta and watersheds emptying into them. Schools in the county are in relatively close proximity to these areas. Watershed and Reclamation District maps from the County Public Works Department have been obtained and compared to maps of the various school districts and school sites to determine relative proximity to CALFED, US Army Corps or CVPIA and other projects within County watersheds. All project personnel listed here have been contacted and have given approval for involvement in project and are open to involvement of teachers and schools in their project.

The brief survey performed in preparation for this proposal has determined that many schools that may become involved with the development and implementation of the Delta Studies Curriculum are near to possible action sites. The following list demonstrates how several of these relationships are already functioning to some extent. The present proposal will capitalize on these and new, yet to be developed connections. For example, Bear Creek High School students currently bicycle to their sample site a mile away on Bear Creek, while UOP, Stagg High School and Brookside School students can walk less than a block to the Calaveras River. As more sites are developed, attention will be paid to proximity to schools who might be targeted as participants in the project. Other classroom and school site action projects will be developed at other sites who are not in close proximity to off site action projects. A table of sample projects for consideration with present school participants follows:

Project/Site Name	Issues Targeted	Schools Presently Participating	Contacts	Watersheds	CALFED + Other Funding
Bear Creek Mosure Slough	Contamination/S iltation	Morada Mid School/Bear Creek High	Doug Perry Delta Keeper	Delta Eastside Tributaries	Lower Mokelumne
Calaveras	Anadromous	UOP, Stagg	Dr. Gary Litton	Calaveras River	Pollution

River	Fisheries	High, Brookside			Detection/Delta
		Sch.			Кеерег
Mormon	Pollution/Land	Lincoln High	Pam Martin	Calaveras River	US Army Corps
Slough	Conversion				
Mokelumne	Anadromous	Lodi High	Lodi Lake	Modelumne	CDF&G
River	Fisheries		Docent Program		EBMUD

3. N/A

4. N/A

5. System-Wide Ecosystem Benefits

Long range projections of impact of this curriculum suggest it can potentially produce a student who, at the end of graded 12, has received 100 hours (10 hours per year per grade level K-8 plus at least 10 hours in high school) of standards based instruction that matches issues congruent with ERP Goals of CALFED.

E. Qualifications

Project Director:

Judi Wilson
Director, Mathematics and Science
San Joaquin County Office of Education
PO Box 213030
Stockton, CA

Director, Math and Science since 1992. Serves as liaison between the California Department of Education to fifteen K-12 school districts in San Joaquin County for mathematics and science. Directs teacher training, assist schools and districts to implement California Academic Science and Mathematics Standards, and serves as project developer and project administrator for a variety of mathematics, science, and environmental education related initiatives. Former Regional Director for California Statewide Systemic Initiative for Mathematics and Science, and facilitator/trainer for a variety of environmental education curricula. Initiator and fiscal officer of California Environmental Education Community's Region 6A (one of 10 in state), and sponsor of several grants and projects for environmental education through EPA and California Department of Education. Former PreK-12 teacher and college instructor. Current Co-Director of Delta Sierra Science Subject Matter Project funded through the California Governor's Office and the University of California that serves seven counties in the region.

As Project Director, will supervise all program activities and personnel. Will conduct all monitoring and evaluation and supervise the development and housing of all materials related to the project. Will file all reports and serve as point of contact for project funders to the project.

Project Coordinator:

To Be Named

Qualifications will include expertise and experience in working with schools/teachers and environmental education. Will visit schools, supervise implementation of Delta Studies Curriculum and assist to train Delta Teacher Leaders as trainers at their site. Coordinator will assist to collect data for evaluation and will directly monitor the materials checkout from the Delta Education Resource Center. Project Coordinator will be a Teacher on Special Assignment from a school district in San Joaquin County who is released from classroom duties half time to be Project Coordinator.

Facilitator (Year One Only):

Olga Clymire
Lake County Office of Education
1152 S. Main St.
Lakeport, CA 95453

Olga Clymire, Curriculum Writer and Environmental Education Consultant from Lake County Office of Education. Involved in curriculum design for 14 years and in environmental science education and staff development for 20 years. Ms. Clymire has been involved in all parts of curriculum development and publication, including developing the concepts and topics of the lessons, writing activities for the lessons, and field testing and rewriting of lessons. She also has coordinated the efforts of an editor, illustrator, layout artist, printer, and instructional materials kit developer for a six-unit curriculum called A Child's Place in the Environment. Ms. Clymire is the principal author of the following publications: California edition of The CLASS (Classroom Learning Activities in Science and Social Science) Project, published by the California Department of Education in 1988 and 1992. California Outdoor Education Curriculum Guide, published by the California Department of Education in 1987. Closing the Loop, published by the California Integrated Waste Management Board in 2000.

Facilitator will direct the development of the Delta Studies Curriculum during Year One of project. This will include facilitating the development of concepts and subconcepts for a ten hour grade level curriculum with a Delta theme, leading a group of 30 knowledgeable individuals with diverse views and insuring that the curriculum will be developed and available for field test according to timeline proposed. Facilitator will direct secretarial support for the publishing of the field test version and supervise editing. Facilitator will also act as consultant to project for revision before Year Three and assist in advisory role in the development of the Kits.

Community Outreach Coordinator:

Dr. Dale Sanders 804 N. Tuxedo Ave. Stockton, CA 95204

Recently retired from position as Senior Environmental and Academic Planner at University of California, Berkeley. Currently a substitute teacher in Manteca Unified School District and volunteer in the San Joaquin County Office of Education program called TOPS, Teaching Opportunities for Partners in Science which matches retired scientists with elementary schools. Has Ph.D. in

entomology with minor in Science Curriculum Development from UC Berkeley and has held position as Sr. Planning Ecologist in Contra Costa County as well as a private consultant for issues such as biological research, pest management, and IPM training. Served as adjunct faculty of CSU Hayward and UCB for courses such as environmental studies, geography, and resource planning and management.

Community Outreach Coordinator will serve on Delta Studies Curriculum Development Team during Year One of project and have chief oversight of all action projects contained within the Delta Studies Curriculum during Year Two and Three of project. Will assist with selection and identification of suitable action projects for teachers, students and schools, will make contacts with project personnel and help to design appropriate activities for various age groups of students. During Years Two and Three of project will visit schools to promote and assist with both on site and off site action projects. Will serve as liaison for project to all project personnel connected to action projects and will facilitate off site projects for classes and assist with transportation options.

Website Developer/Maintainer

To Be Named

Website Developer and Maintainer will be a teacher with technology expertise who receives an extra stipend, over and above regular classroom duties, to serve as technology leader for the project. Primary responsibilities will involve website maintenance, and training for teachers to incorporate technology into lessons and action projects.

• Cost

1. Budget Narrative (Years One –Three)

Item	Description	Yr ONE	Yr TWO	YR THREE
Personnel	Project Director	\$6,000	\$6,000	\$6,000
	20 days @\$300 day = CALFED			
	10 days @\$300 day=Cost Share (\$3000)	E-control		
	Project Coordinator	\$25,000	\$25,000	\$25,000
	90 days/Half Time Teacher Contract	<u> </u>		
	Community Outreach Coordinator		\$15,500	\$15,500
	103.3 @ 150 per day			
	Facilitator (Year 1) for Delta Curriculum	\$13,500		
	38.5 days @\$350 day			
	Website Developer/Maintainer	\$2,000	\$2,000	\$2,000
	& School Visits and Teacher Trng. Years Two & Three	<u> </u>		
	Secretarial Time	\$6,500	\$4,500	\$4,500
	(Includes desk top publishing for Curriculum)			
Benefits	Project Director (covered by Cost Share-\$500)			
@ 20%	Project Coordinator	\$5,000	\$5,000	\$5,000
	Project Sec.	\$1,000	\$1,000	\$1,000
	Total:	\$59,000	\$59,000	\$59,000

Supplies	Delta Studies Curriculum Development Team	\$1,200		
	Content information, meeting supplies for four days,			
	five evening (3 hrs ea) sessions			
	Curriculum, Kits, Delta Education Resource Center	\$4,475	\$2,400	\$2,400
	Year One: 45 Kits @\$99 ea; Years Two & Three:			
	Additional Resources to support Curriculum			
	Office, Copying, Phone	\$1,000	\$1,000	\$1.000
	Shelving/Presentation Materials for Resource Center	\$525		
	Trng. Supplies for DELTA Lead Teacher 30 hour trng.	ŀ	\$5,000	\$5,000
	(35 x \$100) 2 hr Action Project Personnel Trng. (50 x			
	\$20) &3 hr Principal trng.(\$250)			
	Trng. Supplies for Delta Studies Facilitator for	\$1,200		
	Curriculum Development Team		Į	
	(copies of curriculum for ideas, training videos,			
	presentation supplies)			
	Resource materials for 30 Curriculum Team or	\$3,000	\$3,000	\$3,000
	Teacher Leaders (30 x \$100)			
	(field test supplies for kits and lessons supplies)			
	Total:	\$11,400	\$11,400	\$11,400
Consultants	Stipends/Delta Studies Curriculum Development Team	\$22,500		
	(30 x \$750) four full days + five evening sessions (3	Ì	1	
	hours ea.)			
	Stipends for Teacher Leaders (D.E.L.T.A.)		\$22,500	\$22,500
	30x \$750 (for work on site in curriculum	1		
	implementation and training)			
	Content Speakers for Trng. for DELTA Teacher	\$1,200	\$1,200	\$1,200
	Leaders and Curriculum Developers			
	Total:	\$22,500	\$22,500	\$22,500
Travel	Mileage for Project Coordinator	\$1,100	\$1,100	\$1,100
	Presentation at Mtgs/Conf./etc.	\$1,000	\$1,000	\$1,000
	Calif. Science Teachers Association, state Env. Educ]	•	
	confs.			
	Total	\$2,100	\$2,100	\$2,100
Total		\$96,200	\$96,200	\$96,200
Indirect @		\$5,897	\$5,897	\$5,897
6.13	·			•
Total:		\$102,097	\$102,097	

2. Cost Share

Cost share for the project will grow as project develops. Cost share will be a combination of in-kind and cash. Agency, organizational and educational personnel will be enlisted to assist with project and records will be kept for in-kind contributions. Key cost share items are as follows:

2 days substitute time for DELTA Teachers Leaders at	2 days x appr. \$100 per day x thirty teachers per year=			
schools sites and teacher curriculum developers	\$6000 per year or \$18,000 for 3 yrs. total			
Project Director for additional days of project support	10 @ \$350= \$3500 per year or \$10,500 total			
Additional agency, organizational personnel to work on	5 @ \$750 each = \$3500, or \$10,500 over total grant			
development of Delta Curriculum and sponsors of action	period			

project who serve without stipend	
TOTAL Cost Share	\$13,000 per year or \$39,000 over 3 years.

H. Compliance with Standard Terms and Conditions

The San Joaquin County Office through the operation of activities proposed in present project agrees to comply with all state and federal terms.

I. Literature Cited

- Lesson ideas for the Delta Studies Curriculum will be derived primarily from the
 following curricula that received high ratings in the California Environmental Education
 Compendia (see Appendix A). Additional curriculum development resources will be identified as
 a result of curriculum development process.
- Clymire, Olga. A Child's Place in the Environment series. Sacramento:
 California Department of Education, 1996–98. Grades 1-6 focus. Includes grade level units entitled: Respecting Living Things (Unit 1); Protecting Soil (Unit 2); Preserving and Restoring Ecosystems (Unit 3); Caring for Aquatic Systems (Unit 4); Conserving Natural Resources (Unit 5); Achieving a Sustainable Community (Unit 5).
- Clymire, Olga. California CLASS Project. See Appendix C
- Department of Water Resources. 1991. All About Water. Primary Grades. Includes activities with five chapters: How Does Water Get To Us? How Much of the Earth's Water Can We Drink? How Do We Use Water?, What is Happening to Our Water?, and How Should We Take Care of Our Water?
- University of California, Berkeley, Lawrence Hall of Science. Great Explorations in Math and Science (GEMS), Rivercutters. Introduces upper elementary students to erosion, pollution, and sequencing of geological events.
- California Department of Fish & Game. *Project WILD and Aquatic Project WILD*. K-12 focus. Interdisciplinary program based upon exploration of wildlife and aquatic species.
- The Watercourse and Council for Environmental Education. Montana State University. Project WET. K-12 focus. Promotes awareness, appreciation, knowledge and stewardship of water resources.
- Stokely, K. Adopt-A-Watershed. Hayfork, CA. K-12 Focus. Integrated science curriculum utilizing local watershed as focal point for field studies, restoration projects and community action projects.
- California Department of Education. California Academic Standards. 1996-99.

Attachment C

Task	Hrs.	Salary/ Benefits	Service Con-	Travel	Over- head	Total
Year ONE	1		tracts	<u> </u>	_l	!
Task 1: Delta Studies Curriculum Development (includes cost share)	2230	38,900	10,500	500	10148	60048
Task 2: Delta Studies Kits	1114	19,600	10.500	1500	10449	42049
Total: Year ONE						102,097
Year TWO						
Task 1: Implementation of Delta Studies Curriculum in 30 Targeted Schools with Assistance from DELTA Teacher Leaders	2037	42,500	20,500	1100	22,497	86,597
Task 2. Assistance at 15 Schools for Action Projects			15,500			15,500
Total: Year TWO	•		•	•		102,097
Year THREE						
Task 1: Implementation of Delta Studies Curriculum in 30 Targeted Schools with Assistance from DELTA Teacher Leaders	2037	42,500	20,500	1100	22,497	86,597
Task 2. Assistance at 15 Schools for Action Projects			15,500	-		15,500
Total: Year TWO						102.097
Total for Project						306,291

Quarterly Project Budget

(SJCOE will coordinate with funders to provide continual funds for project activities)

2000-2003 (Three Years of Project)

Year	Jan-	Apr-	Jüly-	Oct-	Total:
	Mar.	June	Sept.	Dec.	
Year ONE All Tasks	25,524.	25,525.	25,524.	25,524	102,097
Year TWO All Tasks	25,524	25,525	25.524	25.524	102,097
Year THREE All Tasks	25,524	25,525	25,524	25,524	102,097

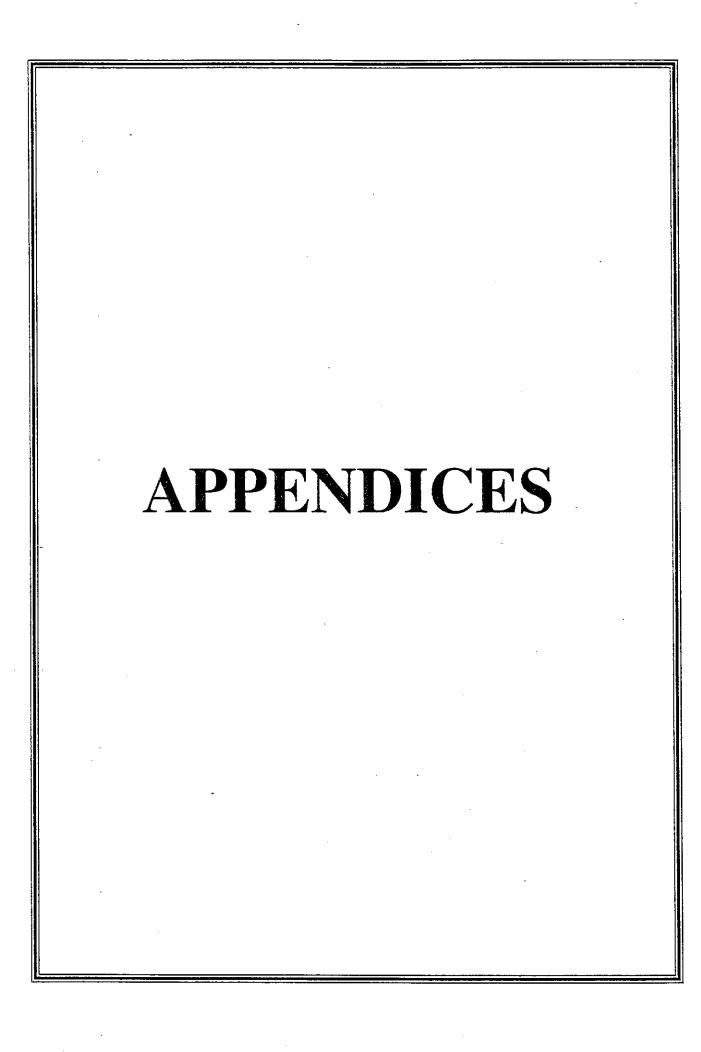
1014 (17)						
\$ -0-	↔	\$ 1 0 1	.	↔		7. Program Income
			And the second s			
\$ 102,097	49	\$ 102,097	↔	₩		k. TOTALS (sum of 6i and 6j)
5,897		5,897			jes	j. Indirect Charges
96,200		96,200			i. Total Direct Charges (sum of 6a-6h)	i. Total Direct C
101		1				h. Other
101		-0-				g. Construction
22,500		22,500	7-14-7-13-13-13-13-13-13-13-13-13-13-13-13-13-			f. Contractual
11,400		11,400				e. Supplies
101		-0-				d. Equipment
21,000		21,000				c. Travel
6,000		6,000			its	b. Fringe Benefits
53,000	· ·	\$ 53,000		↔		a. Personnel
		(3)	(2)	(1)	ber lear	6. Object Class Categories
Total		GORIES UNCTION OR ACTIVITY	SECTION B - BUDGET CATEGORIES GRANT PROGRAM, FUNCTION OR ACTIV	SECTIO	7	
\$ 345,291	\$ 39,000	\$ 306,291	₩	\$		5. Totals
						4.
115,097	13,000	102,097				3. Year 3
115,097	13,000	102,097				2. Year 2
\$ 115,097	\$ 13,000	\$ 102,097	€			r i
Total (g)	Non-Federal (f)	Federal (e)	Non-Federal (d)	Federal (c)	Number (b)	or Activity Envir. (a) Educ.
	New or Revised Budget		oligated Funds	Estimated Unobligated Funds	Catalog of Federal Domestic Assistance	Grant Program Function
		MARY	SECTION A - BUDGET SUMMARY	SECTI		

Previous Edition Usable

Authorized for Local Reproduction

Standard Form 424A (Rev. 7-97)
Prescribed by OMB Circular A-102

	SECTION	SECTION C - NON-FEDERAL RESOURCES	SOURCES		
(a) Grant Program		(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8. San Joaquin County Office of	Ed. In-Kind	\$ 3,500	49	₩	\$ 3,500
9. District Teacher Substitutes				6,000	6,000
10. Agency, Organization Personnel	l - In-Kind			3,500	3,500
;					
12. TOTAL (sum of lines 8-11)		\$ 3,500	()	\$ 9,500	\$13,000
	SECTION	SECTION D - FORECASTED CASH NEEDS	SH NEEDS		
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$ 102,097	\$25,524	\$25,525	\$ 25,524	\$25,524
14. Non-Federal	13,000	3,250	3,250	3,250	3,250
15. TOTAL (sum of lines 13 and 14)	\$ 115,097	\$ 28,774	\$28,775	\$ 28,774	\$28,774
SECTION E - BUD	GET ESTIMATES OF	SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BA	EDED FOR BALANCE	LANCE OF THE PROJECT	
(a) Grant Program			FUTURE FUNDING	FUTURE FUNDING PERIODS (Years)	
		(b) First	(c) Second	(d) Third	(e) Fourth
16. Delta Studies Program		\$102,097	\$102,097	\$ 102,097	\$
17.					
18.					
19.					
20. TOTAL (sum of lines 16-19)		\$ 102 , 097	\$102,097	\$ 102,097	↔
	SECTION F	SECTION F - OTHER BUDGET INFORMATION	ORMATION		
21. Direct Charges:		22. Indirect Charges:	1		The second secon
23. Remarks:			750175	(2 TedT2)	



APPENDIX A

ENVIRONMENTAL EDUCATION COMPENDIA

Curriculum materials were evaluated by environmental educators throughout the state using an evaluation tool developed by the California Department of Education in collaboration with other state agencies. The goal of this evaluation is to identify those curricula which align with California education frameworks and are accurate and comprehensive in their presentation of issues related to the following topics.

Curricula were evaluated for appropriateness at four grade-group levels: K-3, 4-6, 7-9, and 10-12. Each piece was evaluated by a team of educators who have teaching experience at the target grade-group level. Multi-level curricula were evaluated at each grade level that they encompassed, resulting in some curricula being evaluated by four different evaluation teams.

Only those material which received an overall grade of B- or above are included in the main part of this document. Curricula with lower average scores and supplemental material not deemed curricular in design are listed in the appendices.

These publications provide information about and evaluation of environmental education curricula. The following compendia are available to schools and available from:

AIR QUALITY

Air Resources Board
Office of Communications
2020 L Street, 5th floor
Sacramento, CA 95814

ENERGY RESOURCES

California Energy Commission Public Education 1516 Ninth Street, MS-29 Sacramento, CA 95814-4219

HUMAN COMMUNITIES

California Energy Commission Public Education 1516 Ninth Street, MS-29 Sacramento, CA 95814-4219

INTEGRATED WASTE MANAGEMENT

California Integrated Waste Management Board 8800 California Center Drive Sacramento, CA 95826

NATURAL COMMUNITIES

State Water Resources Control Board Office of Legal & Public Affairs 901 P Street Sacramento, CA 95814

WATER RESOURCES

Department of Water Resources Publications, Room 338 1416 Ninth Street/Box 942836 Sacramento, CA 94236-0001

APPENDIX B



Abstract of A Child's Place in the Environment Series

The purpose of the curriculum guide, "A Child's Place in the Environment", is to provide elementary school teachers with an example of an interdisciplinary, thematic, environmental education program.

Goal

The goal of A Child's Place in the Environment is to encourage students to become environmentally literate and active. These students would value their environment, respect all life forms, understand the basic ecological principles which support our planet, and live an ecologically responsible life-style.

Themes

Each grade-level unit is designed around four major themes:

- Valuing the environment—providing opportunities for students to develop a feeling of appreciation and respect for the environment
- Systems and interactions—enabling students to acquire an understanding of the ecological concepts as they practice thinking and problem-solving processes
- Patterns of change—challenging students to recognize the ways their environment changes
- Conservation—encouraging students to act responsibly toward the environment through school and community enhancement projects and personal action

Topics

The six grade-level units of A Child's Place in the Environment are:

Grade 1: Respecting Living Things

Grade 2: Protecting Soil

Grade 3: Preserving and Restoring Ecosystems

Grade 4: Caring for Aquatic Systems

Grade 5: Conserving Natural Resources

Grade 6: Achieving a Sustainable Community



Abstract of A Child's Place in the Environment Series

Curricular Components

Each unit consists of approximately 20 sequential lessons that provide experiences for a variety of student learning styles and incorporate cooperative learning groups. The lessons in each unit are linked by a story line, guiding students through environmental awareness, understanding, thinking and problem-solving processes, and action projects.

Student Outcomes

Students become dynamically involved in specific environmental science activities suited to their developmental levels. Their enhanced literacy provides them with a deeper understanding of basic ecological principles and with valuable insights into living ecologically responsible life-styles that reflect respect for all life forms.

For more information contact:
Olga Clymire
Environmental Education Consultant
1152 South Main St.
Lakeport, CA 95453
707-263-7249
FAX 263-6262
olganc@pacific.net

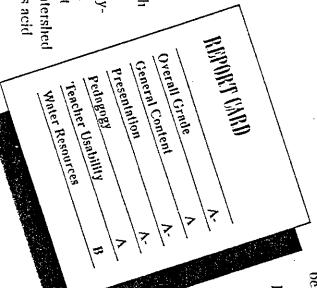
Galifornia GLASS Project

California Department of Education Bureau of Publications, Sales Unit P.O. Box 271 Sacramento, California 95812-0271 (800) 995-4099

\$28.00, 1984, 374 pages.

The "California CLASS Project"

is an interdisciplinary program
that integrates science, social
science, and language arts. Students
are presented with real-life environmental issues facing California, which
are explored and discussed through a
variety of interactive activities. Thirtynine activities revolve around energy,
hazardous substances, wildlife habitat
management, wetlands, forest and watershed
management, and other issues such as acid
rain and solid waste.



General Content

"Outstanding linkage with land use planning issues." "One of the best I've seen: great background, diagrams, lesson plans."

Presentation

Easy to use format. "Illustrations need improvement." "Some of the overheads are outdated."

Pedagogy

"Aligned to the state frameworks." "Good discussion-making and genuine biological inquiry." "Emphasizes cooperative learning, critical thinking and problemsolving skills."

Teacher Usability

A very useful supplement.

Specific Content on Water Resources

"Discusses socioeconomic and environmental quality issues... although water is only a small component of the 'CLASS' curriculum." "A thorough treatment of wetlands." "Material is specific to California."

Foreign Language

SPONGE THE EARTH'S

UPALL A - Lesson 6

feacher Instructions

OVERVIEW

Students study watershed and map drainage patterns of their schwil grounds

predict and map rainwater drainage patterns of their school and home, then compare their prediction to the actual drainage patterns; determine the drainage in their community's watershed; and

Surdents will:

observe a demonstration on how soil in a watershed acts as a spouge, filtering and

compare the school ground watershed to the community watershed

AT A GLANCE

ADVANCE PREPARATION:

Follow preparation directions in Setting the Stage 1a and 1b.
Prepare a map of the scheed grounds. Use the one from the previous lesson, "Who Planted the Maple on Elm Street," If available, Make copies for all students.
Obtain a topographical map of your area (see Dipping Deeper) and make a transparency of

BURATION: 3 class periods
(IRO)UPINGS: whole class and small groups
(IRO)UPINGS: whole class and small groups
(IRO)UPINGS: nower pot, cotton ball, aquaritum type charcoal, soil, dirty water, 1/2 pallon (2 liters) milk catton, clear cup or glass, measuring cup, dish pan, 4° x 8° (10 cm x 20 cm) sponge, school map, pencils, a transparency of a section from a topographic map of your area, and the following:

RANSPARENCY

A - A Small Rural Watershed
CROSS CURRICULTIAN CONNECTION: act, geography, mathematics
PROCESS SKILLS: observing, communicating, companing, organizing, relating, inferring

VOCAHULARY

squifer, erosion, filter, groundwater, percolation, ninoff, subsoil, watershed, water table

-277-

BACKGROUND INFORMATION

Defiultion of a Watershed

can also be as large as the Mississippi River watershed, which covers over 1,234,000 square miles (1,208,400) square kilometers) and inacre of land which drains into a pond) streams. Watersheds can be very small (e.g., an error of land which drains into a pond). They water to a draininge system or stream. It supplies us with water by holding rainwater in ground-water aquifers and channeling it into rivers and A watershed is the entire area which contributes

Functions of a Watershed

Picture a watershed as the enril's sponge, filtering as well as absorbing and storing water. As water percolates through the soil in the watershed and fution the water table, the soil filters some of the Impurities. A functioning watershed must allow water to soak into the ground. For-est solls have a great capacity for holding water and, therefore, serve as natural regulators of

Consequences of a Damaged Watershed

faints, houses, and other property. Broded a chokes waterways, reducing the amount water the stream or lake can contain. T Its cover, decreasing its water holding capacity, If the majority of the land in a watershed is paved or not covered with veget enilou. It cannot also the excess rajniful and water will rulu off rapidcreases the available groundwater supply during the dry months of the year. Floods destroy faints, houses, and other property. Froded soft creates problems for fish as well as people. ly. This results in floods and crosion, and de-Uncontrolled logging or fire can strip land of

SETTINGTHESTAGE

- 1. Discuss the definition of watershed with the class (see Background Information). Perform the following activities:

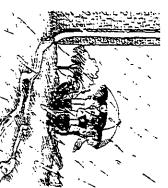
 n. Demonstrate how a watershed functions
- following two experiments:

 Lay a milk carton herizontally on the table with the spout pointing upward. Carefully cut and remove the top side, including the spout. Fill the carton half full of soil. Place a dishpan under the carton to catch the runoff. Tilt the as the earth's sponge by conducting the

eroded soil washaway into the dish pan.
Add more soil, if necessary, to fill the
carton half full. Place a 4" x 8" sponge
on top of the soil. Press the sponge cup of water on the sponge. As you till the carron and pour the water, observe the sponge absorbing most of the water, minimizing the runoff. what would happen when you pour the down firmly. Ask students to predict (opposite the spout), and observe the poured on the soil. Pour the water on the soil at the blunt end of the carton would happen when a cup of water is



- b. The concept of how a watershed filters the water can be illustrated using dirty water and a flower pot. Block the hole in the bottom of the flower pot with a hall of cotton, which takes the place of subsoil. Place a one luch layer of charçoal on the bottom and add soil. Place a clear cup or glass under the pot. Slowly pour leup of dirty water into the pot, a should be relative the bottom of the pot should be relative to the pot of the pot should be relative to the pot of the pot should be relative to the pot of the pot should be relative to the pot of the pot should be relative to the pot should be nvely clean.
- Show the transparency and review he defini-tion of a watershed. Discuss the role and importance of a watershed (see Background Information).



end. Ask students to predict what

APPENDIX D

Concepts and Subconcepts of "A Child's Place in the Environment" Series

Unifying Concept: People are dependent on the Earth's dynamic natural systems and can participate in responsible actions to enhance and protect the quality of the environment.

Grade-Level 1 Concept: We show our respect for living things by caring for them and their surroundings.

Subconcepts:

- 1. Living things share our environment.
- 2. Living things have needs.
- 3. Living things are interdependent.
- 4. People can choose to care about and protect living things.

Grade-Level 2 Concept: We conserve soil because it supports life.

Subconcepts:

- 1. Soil is made up of living and nonliving things.
- 2. Soil supports life, and life enriches soil.
- 3. People depend on soil.
- 4. People can choose to enrich and conserve soil.

Grade-Level 3 Concept: We restore and preserve ecosystems because they sustain life.

Subconcepts:

- 1. In an ecosystem living things depend on each other and on nonliving things.
- 2. Living things have adapted to their habitats.
- 3. Ecosystems change because of natural causes and human alterations.
- 4. People can choose to respect living things and help to restore or preserve ecosystems.

Concepts and Subconcepts of "A Child's Place in the Environment" Series

Grade-Level 4 Concept: We strive to balance our use of water to meet the needs of all living things.

Subconcepts:

- 1. Water cycles through living and nonliving things.
- 2. Water is essential to all living things.
- 3. The ways people acquire and use water affect living things.
- 4. People can choose to conserve water, maintain or improve its quality, and protect specific bodies of water.

Grade-Level 5 Concept: We conserve natural resources because they are necessary to the survival of living things.

Subconcepts:

- 1. Living things depend on natural resources—air, water, soil, sunlight, minerals, plants, and animals.
- 2. The homes of wild animals and human beings are made from natural resources.
- 3. People use and affect natural resources.
- 4. People can choose to conserve and protect natural resources.

Grade-Level 6 Concept: To achieve sustainable communities, we participate in stewardship practices that reflect caring, understanding, and respect for the natural and human-built environments.

Subconcepts:

- 1. Healthy ecosystems are biologically diverse, have complex interrelationships, and are sustainable.
- 2. Some components, relationships, and energy sources in human communities are similar to those that exist in ecosystems.
- 3. Human communities affect the quality of natural and built environments.
- 4. People can choose to participate in responsible actions to promote sustainable human communities and enhance or protect the quality of the environment.

APPENDIX D (cont'd) Unifying Concepts of Environmental Education

VPPENDICES

APPENDIX E



POINT OF VIEW ON ENVIRONMENTAL EDUCATION FROM THE CALIFORNIA DEPARTMENT OF EDUCATION

The following position statement from the California Superintendent of Public Instruction was prepared in the spring of 1990 and distributed to all schools, school district offices, and county offices of education.:

It has been 20 years since campus centered demonstrations first focused the country's attention on environmental issues. Now, on the eve of a global celebration of that historic first Earth Day, environmental awareness is dramatically different. Students learn about it in school, hear it discussed at home, see it on television, and read about it in newspapers. It invades debates on everything from good government to responsible consumerism; triggers heated arguments about jobs, health, and individual freedom; and increasingly governs what we wear and eat and even how we move from place to place. The word, "environment," has become embedded in the vocabulary. It appears in the language of legislators and the rhetoric of conservationists and economists alike. It guides the plans of engineers and the blueprints of architects. No one in society is immune to its pervasive influence... or its importance. But awareness, alone is not enough. The omnipresence of the word, "environment," in our language does not necessarily equate to an understanding of how its basic principle regulate or constrain the life cycles of everything from butterflies to eagles and marshes to mountains. One person's awareness of the problem may simply be another's anguish over its impact.

Comprehensive efforts must be made to bolster recognition with understanding and appreciation. More must be done to teach the basis ecologic principles that underpin all natural systems and sustain the resources they can provide an enlightened society, in perpetuity. There is no better place than ours schools nor a more critical time than now to embark on a new course toward those essential objectives. These goals are best reached through a restructuring of and more vigorous commitment to environmental education. When Earth Day was celebrated on campuses and town squares across the nation, the major concerns were air and water fouled with contaminants, fields and produce tainted with pesticides, and forest and fuel resources overexploited. Society still struggles with these concerns, and it also confronts vastly more sobering ones as it approaches a new century. Scientific evidence indicates that the earth's life sustaining atmospheric canopy is being altered. One kind of pollution erodes the ozone shield and lets in too much cancercausing solar radiation, while another traps the earth's reflected heat and turns the planet into a global greenhouse. The environmental issues of the nineties, and beyond, have become planetary pollution and global survival.

More than ever before, classrooms must emphasize basic principals that govern the planet's resources. No species can exceed the limits of life-support systems that sustain it. That applies equally to humans, whose unique ability to alter and manipulate the environment it share with so many other life forms carries special responsibilities. Students must be taught that the way they live, shop, and even play can mean the difference between survival and extinction for other species with whom they share essential life-support systems like pure air, clean water, and sustainable nutrients. They must value the linkage of such interdependence and understand that when the chain breaks for one species, it can unravel for all.

As they are infused with knowledge and understanding of such immutable laws of nature, students are less likely to accept society's current throwaway mentality that fosters excessive exploitation of raw resources for this generation and burdens the next with overflowing waste sites. Brought face to face with such concepts, they are unlikely to believe there is always another river to dam, another forest to strip, or another species to exterminate. Instead of spending the next generation's rightful resource inheritance, they will have been schooled in how to use, and reuse, their own more carefully. They will understand the inevitability of consequences and the redeeming value of considering them before they act. With consistent reinforcement of such underlying principles will come

understanding that environmental problems often are just valuable resources out of place. Industrial solvents dumped to pollute precious underground water systems could, instead, be reclaimed and sold for profit. Once stripped of their poisonous heavy metals, mountains of sludge from sewage plants could renew depleted farmland.

With dedication, a vigorous commitment of resources and a measure of good fortune, a new generation of environmentally conscious citizens will appreciate the value of sustainable harvests and loathe the liability of designed obsolescence. They will know how important it is to look before they leap, think before they act. There will be commitment to fairly balance tradeoffs when negative impacts are unavoidable and recognition that today's delayed local response can become tomorrow's global repercussion.

Creatively crafted and fairly applied, a continuing and comprehensive program of environmental education will teach the value of persistence and discipline; encourage an entire generation to take responsibility for its actions and choices; and energize them to act rather then react. The benefits need not be constrained solely to more enlightened environmental thinking, but they are equally applicable to good government, citizenship, parenting, and individual productivity.

Caring enough to learn, learning enough to know, and knowing enough to act will position students to effect a more responsible stewardship over their inheritance and create a more peaceable, productive, and sustainable existence for all species.

While such goals and accomplishments are easier to establish than to reach, they can be a natural consequence of consistent attention to basic ecologic principles. Properly reinforced, they will be keystones to lifetimes of awareness, understanding, and enlightened action.

THE GOALS of ENVIRONMENTAL EDUCATION

Goal I - Foster awareness of the interdependence of all life and the need to have values and behavior compatible with a sensitivity to and concern about the total environment.

We and others we know exhibit sensitivity and compassion at some times and reactive and destructive behavior at others. We must strive to teach that we all are responsible for the environmental consequences of our choices, public and private. Schools can help students become more aware of self and others by bringing them together in quality natural settings to bridge the gap between both themselves and natural systems that is an unwanted by product of an increasingly technological world. Such experiences, reinforced by thoughtful classroom work, bolster understanding and appreciation of the linkages between natural and human-made environments and their place in and value to society.

The concept of interdependence can be taught effectively as small groups of students work together on projects they help select, design, and complete. With the teacher filling the role only of a team member who guides and facilitates the learning experience, students master working together on real issues and develop group as well as individual problemsolving skills. This process emphasizes development of learning skills in the community and integrating such experiences so that students learn to perceive and relate to the natural, social, and technological environments as different but linked systems.

Goals 2 - Develop knowledge about the biophysical environment—what happens when humans use and abuse nature—and about constraints to and opportunities for effective change.

Students increasingly need a base of knowledge about ecologic principles in order to make sound decisions as citizens. The Science Framework for California Public Schools (1990) contains many of these concepts but might be expanded to incorporate such others as:

- 1. History of the environment, both natural and human
- 2. Evidence of human-induced and natural change
- 3. Guiding change through forecasting and designing alternative futures; the role of government and other entities in planning; and tactics and strategies for intervention
- 4. Impacts of human cultural behavior on the environment, including pollution, habitat loss, and species extinction

The underlying cause of environmental problems often is the result of the collective behavior of individuals. Traditionally, indigenous societies live in harmony with their natural support systems. But many of the cultural practices of industrialized society exceed the capacity of the environment to replenish, cleanse, or recycle. Yet our major economic, social, and ideological systems remain geared to levels of resource consumption that are increasingly impossible to sustain.

Students need to know more about new ideas and practices that are ecologically sound and how public acceptance of them can be won. Other cultures and their relationship to nature and its resources should be studied for clues to understanding the principles that govern natural systems and the means of adapting them to improve the design of systems of human origin.

Goal 3 - Help students learn to make decisions and take actions to solve current environmental problems and prevent new ones from developing.

Students need problems-solving skills to help them cope with an era marked by the explosive growth of new information. To become more responsible for their own learning, they need to know how and where to get that information and use it wisely. They need to be able to search out a wide variety of issues and the likely ecological and cultural implications of suggested solutions, including knowing how to probe into and correctly analyze environmental issues to determine the best corrective steps.

Most environmental problems arise when only short-term or parochial interests are considered. Students should be taught how good-faith negotiations and knowledge about tradeoffs help ensure that decisions which exploit or impact natural resources serve longer and wider interests. Classroom experience with decision "trees," cost/benefit analysis, case studies, and simulations will enhance abilities to negotiate and work cooperatively to ensure that future or other populations are not forced to suffer the consequences without sharing the benefits of current environmental decisions.

Citizenship development involves more than learning content or concepts. It evolves best when students graduate to it through hands-on experience with such real-life issues as environmental problems or controversies. In this way they learn best the politics, constraints, tradeoffs, and linkages of issues and just how much individuals or groups can do to effect them. Cumulatively, students involved in those processes learn leadership skills like advocacy, facilitating, and organizing and how to use a diversity of experiences and approaches.

Investigating real problems helps young people take formative steps toward critical thinking by learning how to ask, think, and act for themselves. Quality environmental education programs enhance that essential form of reasonable reflective thinking when they center the curriculum on the lives and communities of their students. Through being taught to validate and analyze their own circumstances, students recognize there are no perfect solutions. Often, they learn that not all of the facts necessary for good decisions are available when most needed. Instead, they discover that the best they may be able to do is to find and evaluate sound reasons for taking action and consider all likely alternatives and potential impacts. Even then they must learn to live with a degree of uncertainty about the consequences and act accordingly to their best judgment.

Recommendations for Action

1. Provide Thematic Instruction Throughout the Curriculum.

Environmental education is taught thematically in every classroom at all grade levels. All students participate in environmental studies and projects. Students participate in experiential learning activities that are true to ecological principles and the environmental education concepts of the core curriculum, particularly in science and history-social science. Literature-based programs include books with environmental topics, which address a variety of themes and deepen student understanding of concepts found in the Science Framework for California Public Schools (1990).

- 2. Conduct Ecology Lessons in Built and Natural Settings. Environmental education is conducted in all school settings: indoors and outdoors, and at suburban, urban, and rural schools. Every child has a residential outdoor science school experience in fifth or sixth grade. Experiential learning through field studies at each grade level contributes to the understanding of diverse ecosystems and values structures.
- 3. Value Lifelong Learning About the Environment. Students and staff members value the lifelong process of educating themselves about local and global ecological issues as they relate to society and self. Career exploration in the environmental sciences is provided to all students.
- 4. Participate in Ecologically Responsible Action Projects. Principals and teachers serve as team members and role models for the students; provide the opportunities for students to be responsible for ecologically sound classrooms and schools; and participate with the students in community action projects.
- 5. Emphasize he Higher Order Learning Processes and Educate the Whole Child. Students apply basic learning and communication skills and higher order thinking processes in the context of current community issues. Environmental studies and action projects involve the whole child in cognitive and affective learning experiences, nurturing each student's intellectual, social, physical, and emotional well-being.
- 6. Provide Development Opportunities for All Staff Members. To effect and ecologically sound school, all staff members must understand the ecological rationale which underlies their individual responsibilities. Teachers must be familiar with environmental education curriculum materials to choose wisely those that best suit the unique characteristics of their student population and their bioregion. Custodians must understand the crucial nature of their impact as role models for reusing and recycling materials used at the school and developing innovative programs to suit the needs of the school. Classified staff members contribute their initiative, enthusiasm, and interest to classroom and schoolwide programs, sparking increased interest in the students' desire to understand ecology. Administrators set the tone for the school and the district; their leadership creates a cohesive team effort where all players pull together to improve conditions and programs in the school.
- 7. Match the Media to the Message. The thinking processes a student uses' to move from awareness to understanding to action can be stimulated by specific events and activities. Outdoor experiences, such as week-long residence at an outdoor science school, assist the child in experiencing all three processes, while activities of shorter duration, such as hands-on laboratory activities or field investigations, often provide exceptional reinforcement of one stage in particular.

These are but some of the ways to forge an enlightened, effective program of environmental education. Others could be keyed to increasing the basic awareness of the subject through the use of films, literature, current events, bulletin boards and even school

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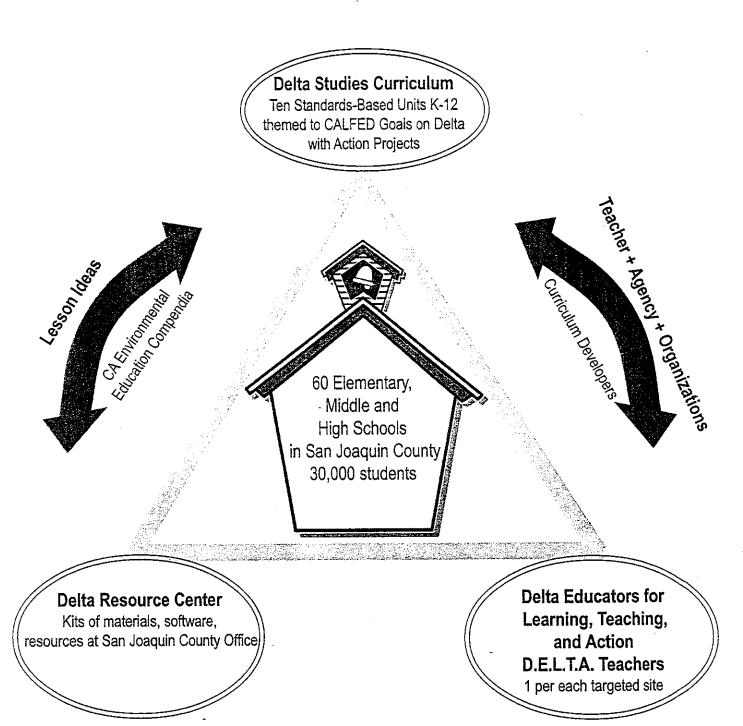
assemblies, at all grade levels. Helping students develop a better understanding of environmental topics and issues can be augmented through an outdoor curriculum that engages preschool, kindergarten, and elementary students in actual field observations and investigations on familiar territory, the school grounds, or nearby local park. Such firsthand experiences need to become more sophisticated for higher grade levels. For fifth and sixth graders, for instance, more useful application of the basic principles of ecology would be better reinforced with a more concentrated dose of applied learning at a weeklong outdoor science residency. Such an experience for middle grades could be backed up by ongoing research at a field study site. High school students could further sharpen such acquired skills by serving as cabin leaders for outdoor resident science schools, conducting their own field research, or even surveying local citizens about environmental problems and attitudes.

The graduation from awareness to understanding culminates when the knowledge and commitment acquired prompts responsible actions toward the environment. When each classroom in every school is based on ecologically sound principles, students are more likely to be both directly involved in and committed to useful, responsible projects that can and should carry over to enlightened community action.

25555

APPENDIX F

Delta Studies Program: San Joaquin County Schools





Kits for teachers to use in schools



Water Education FOUNDATION

71." K Street, Suite 317 Sacramento, CA 95814 Phone: (916) 444-6240 FAX: (916) 448-7699 Internet: www.water-ed.org

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Philip G. Hall CH2M Hill Companies, Ltd.

Gary Hansen Colorado River Indian Tribes

Norris Hundley, Jr., Ph.D University of California

Frances Mizuno San Luis & Delta-Mendota Water Authority

Anson Moran

Suzanne Redfern Redfern Ranches Inc.

Anthony Saracino Groundwater Resources Association of California

Jesse Silva Imperial Irrigation District

Gary Weatherford Weatherford & Taaffe, LLP

William R. Gianelli President Emeritus May 5, 2000

Ms. Judi Wilson Director, Mathematics and Science San Joaquin County Office of Education P.O. Box 213030 Stockton, CA 95213

Dear Ms. Wilson:

This is a letter of support for the grant application of the San Joaquin County Office of Education (SJCOE) to establish a Delta Education program.

The Water Education Foundation has worked with the SJCOE on many occasions to help school children understand the importance of water in their lives and to act to conserve water and protect the quality of the water resources in their communities. We have presented many teacher training workshops in the county and provided teachers with water education teaching materials. The County Office's commitment to resource education is commendable and we look forward to working with you in the future.

In regard to this proposal, the Water Education Foundation will commit to conducting workshops and providing additional water education school programs for teachers. As Education Director for the Foundation, and an educator of 30 years of science education experience, I will also serve in an advisory capacity to the curriculum committee and help train the DELTA teachers in water issues.

We hope you are successful in your application for a CALFED grant and will assist you in whatever way we can.

Sincerely,

⊿udy Wheatley Education Director



UNIVERSITY OF THE PACIFIC

School of Engineering

May 10, 2000

Ms. Judi Wilson, Director, Math & Science San Joaquin County Office of Education P.O. BOX 213030 Stockton, CA 95213

Dear Ms. Wilson,

It is my pleasure to offer this letter in support of your Delta Studies Program. Your proposal offers unique opportunites for primary and secondary students. I support discovery-based approaches in science education. Exposing your students to science using waterways near their schools is one way to fully take advantage of our location near the Sacramento-San Joaquin River Delta and its tributaries. It would be my pleasure to assist you and your collaborators with developing the details of your curriculum.

Our research group has been studying the Calaveras River for several years now. I feel we can significantly contribute to your project. In addition, I feel there are ways that you and your students can reciprocate to enhance our research. To this end, we are available to provide guidance in the development of the field test kits and assistance with training of your Delta Educational Leaders. My personal expertise appears to fit best with your CALFED Goals No. 2: Ecosystem Processes and No. 6: Sediment and Water Quality. However, I work with other investigators from the Biology Department at the University of the Pacific that will also be interested in the your project and could assist in other areas.

I wish you the best with your proposal and project, and look forward to working with you. Please feel free to contact me at glitton@uop.edu or (209) 946-3070.

Sincerely,

Gary M /Litton, Associate Professor



CAUFORNIA
REGIONAL
ENVIRONMENTAL
EDUCATION
COORDINATOR
NETWORK

May 9, 2000

Dear Grant Reviewers,

The Delta Studies Program, as proposed in the grant submitted by the San Joaquin County Office of Education, will be a valuable resource for county schools and will be incorporated into the work of the CREEC Network, Region 6A which is a statewide network of for environmental education and community partnerships. I have been CREEC Coordinator for two years, and this kind of curriculum is badly needed and important for students and teachers in our area.

As a CREEC representative, I have led monthly teacher meetings of teachers at schools throughout the county. I have seen the value of partnerships between agency personnel and teachers and the Delta Studies Program will bring together educators in county and resource personnel who can help to develop this valuable curriculum. I look forward to helping to develop the curriculum and being on the team.

I am also a middle school science teacher at Morada Middle School in Lodi District and, as trainer for Adopt-A-Watershed curriculum, I am always looking for new resources to teacher students about issues facing the Delta. The curriculum proposed will be utilized because it is locally developed, standards based and will also provide materials for its use.

I wholeheartedly support this proposal and am excited about the possible opportunity to help implement countywide.

FUNDED BY
CALIFORNIA
DEPARTMENT OF
EDUCATION
ENVIRONMENTAL
EDUCATION GRANT SINCETALY

IN PARTNERSHIP WITH

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD,

Mr. Doug Perry

CALIFORNIA
DEPARTMENT OF Region 6A CREEC Coordinator &
VATER RESOURCES,
CALIFORNIA
Teacher, Morada Middle School

AIR RESOURCES BOARD

$T \cdot O \cdot P \cdot P \cdot S$

Targeted Opportunities to Prevent Pollution in San Joaquin County

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Dennis Fields
SUC OES
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TYCO
Fran Forkas
Lodi Municipal Utilities
Rick Guantone
San Joaquin Delta College

Steve Gutierrez
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Dave Wagner
San Joaquin Audubon Society
Jerry Weiland
Corn Products International
Judi Wilson
SJC Office of Education

May 10, 2000

Ms. Judi Wilson San Joaquin County Office of Education PO Box 213030 Stockton CA 95213

Dear Ms. Wilson,

The Targeted Opportunities to Prevent Pollution Advisory Committee (TOPPS) is pleased to support the proposal put forth by the San Joaquin County Office of Education called Delta Education Program: San Joaquin County Schools.

TOPPS has been attempting to educate citizens within San Joaquin County regarding the importance of pollution prevention and the consequences of not preventing pollution. Initially our goal was to involve schools but we soon found we were stretched too thin to achieve that portion of our goal. We are pleased that more outreach will be available to students, who will be the future citizens of our county and stewards of the environments, specifically the Delta.

TOPPS is a group of people representing businesses, government, and civic organizations whose mission is to inform, educate, and support San Joaquin County business, industry, and agriculture in their efforts to better the environment and improve financial performance by minimizing pollution to our air, water, and land. Education outreach is very important to us. This project is of the utmost importance to us due to the fact that it targets schools in our area. The activities planned as part of this project will go a long way toward our goals as well.

Sincerely,

Sylvia Kothe

TOPPS Advisory Committee Member

Sylva Kethe



SAN JOAQUIN COUNCIL OF GOVERNMENTS

6 South El Dorado St., Suite 400 . Stockton, California 95202

209.468.3913 • 209.468.1084 (fax) www.sjcog.org

May 11, 2000

John W. Harris CHAIRMAN

Dan Bilbrey
VICE CHAIRMAN

Julia E. Greene
EXECUTIVE DIRECTOR

Member Agencies

CITIES OF

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MANTECA.

RIPON.

STOCKTON,

TRACY,

, YND

THE COUNTY OF

Ms. Judi Wilson
San Joaquin County Office of Education
P. O. Box 213030
Stockton, CA 95213

Dear Ms. Wilson:

The San Joaquin Council of Governments is happy to support your Delta Education Program proposal. The San Joaquin Council of Governments is a joint powers agency that has been assigned the responsibility of preparing and implementing a countywide Habitat Conservation and Mitigation Plan that will preserve 11% of the County's land for threatened and endangered species. This is a 50 year plan and its success is dependent upon a citizenry in this county that understands and supports the protection of threatened and endangered species through the conservation of scarce and essential habitat. Your program proposal is one that helps us achieve our long term goals with the Habitat Plan.

Please let us know if you are successful in acquiring the resources to move this project forward, and how we can assist you in its implementation here in San Joaquin County.

Sincerely,

ANDREW T. CHESLEY

Deputy Executive Director

2/2



State of California - The Resources Agency

DEPARTMENT OF FISH AND GAME

http://www.dfg.ca.gov Central Valley Bay-Deita Branch 4001 N. Wilson Way Stockton, California 95205 (209) 942-6070



May 11, 2000

Ms. Judi Wilson, Director Math and Science San Joaquin County Office of Education PO Box 213030 Stockton, California 95213

Dear Ms. Wilson:

The goal of the Department of Fish and Game (DFG) is to interact with both teachers and students alike to develop an awareness for the environment in which they live. To assist in this effort, I have been involved with your office for the past three years instructing local area teachers about the Sacramento-San Joacuin Delta and its associated wildlife. I believe that your Delta Studies Curriculum and Delta Education Resources Center will assist DFG in meeting its goals.

I support your Program and would like very much to assist you and your staff in developing the curriculum and materials for the San Joaquin County Office of Education, Delta Education Resources Center.

Sincerely,

James A. Starr

Associate Fisheries Biologist

Central Valley Bay- Delta Branch

js00c130



CITY OF STOCKTON

DEPARTMENT OF MUNICIPAL UTILITIES

2500 NAVY DRIVE STOCKTON, CA 95206-1191 (209) 937-8750 FAX (209) 937-6708 May 11, 2000

Judi Wilson, Director of Math and Science San Joaquin County Office of Education P.O. Box 213030 Stockton, CA 95213

CALFED - DELTA STUDIES PROGRAM:SAN JOAQUIN COUNTY SCHOOLS

The City of Stockton Stormwater Management Division is pleased to lend its support to the grant proposal being submitted by the San Joaquin County Office of Education known as the Delta Education Program; San Joaquin County Schools.

The City of Stockton's Stormwater Management Division is responsible for the community outreach effort to educate its citizens with regard to the importance of stormwater pollution prevention. To this effort, the Stormwater Management Division has established an on-going partnership with the San Joaquin County Office of Education to educate our community's children to become stewards of the environment, especially the waters of the Delta.

As part of our on-going outreach effort, the City of Stockton's Stormwater Management Division is offering to assist the County's Delta Studies Program: San Joaquin County Schools program by providing educational material on water conservation, stormwater and pollution prevention for classroom instruction. Additional information will be contributed to the Delta Education Resource Center. Members of the Stormwater Management Division will participate as guest speakers and local resources in the classroom.

Best of luck in your pursuit of this project. Please feel free to contact the Stormwater Management Division at 937-8734 should you need additional information regarding this matter.

MORRIS L. ALLEN

DIRECTOR OF MUNICIPAL UTILITIES

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San Joaquin County Resource Conservation District

1222 Monaco Court, #23 Stockton, CA 95207

May 10, 2000

Judi Wilson
San Joaquin County Office of Education
P.O. Box 213030
Stockton, CA 95213

RE: CALFED Grant Application

Dear Ms. Wilson:

This letter is to support your CALFED Grant application for the San Joaquin County Schools' Delta Studies Program.

As you know, the San Joaquin County Resource Conservation District currently is overseeing the Lower Mokelumne River Watershed Stewardship Program planning effort. Education is one of the identified components of the plan. We believe that efforts such as yours to encourage youth education in resources stewardship will translate into both youth and adult community leaders active in resource stewardship within the watershed.

The San Joaquin County Resource Conservation District looks forward to working with your agency on this program in the future.

Sincerely,

John B. Meek, Jr.

President



Veray Wickham
Community Involvement
Coordinator
PO Box 213030
Stockton, CA 95213-90309
(2098) 468-9021
(209) 468-9102
vuickham@sjcoe.net

May 8, 2000

Judi Wilson
Director of Science and Math
San Joaquin County Office of Education

Dear Ms. Wilson,

As regional service-learning lead for education region six (Amador, Calaveras, San Joaquin, Stanislaus and Tuolumne Counties) I am pleased to collaborate with you on the Delta Studies Program. The partnership between environmental education and service-learning have proved to be a powerful way to meet both academic standards and community needs throughout the nation.

As service-learning lead I will assist with school projects, recruit and train appropriate community partners, provide staff development for teachers, and be an active participant in collaboration building activities.

I am looking forward to working with you and the schools and sponsoring partners throughout San Joaquin County participating in the Delta Studies Program.

Sincerely,

Veray Wickham

Community Involvement Coordinator



United States
Department of
Agriculture

Natural Resources Conservation Service 1222 Monaco Ct. #23 Stockton, CA 95207 (209) 946-6229 FAX (209) 946-6036

May 10, 2000

Judi Wilson San Joaquin County Office of Education PO Box 213030 Stockton, CA 95213

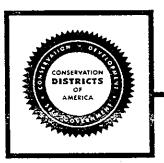
Judi:

I enthusiastically support your CALFED grant proposal. Developing and delivering educational curriculum tailored to the Delta is vital to understanding this critical resource. I look forward to participating in the development of the program.

The Delta is a major part of San Joaquin County and your proposal will promote an interest and understanding of the issues in "our back yard." On a broader level, the materials you assemble can be exported to the other Delta counties and throughout the state.

David R. Simpson

District Conservationist



San Joaquin County Resource Conservation District

1222 Monaco Court, #23 Stockton, CA 95207

May 10, 2000

Judi Wilson
San Joaquin County Office of Education
P.O. Box 213030
Stockton, CA 95213

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The San Joaquin County Resource Conservation District looks forward to working with your agency on this program in the future.

Sincerely,

John B. Meek, Jr.

President



STOCKTON UNIFIED SCHOOL DISTRICT

CURRICULUM and PROFESSIONAL DEVELOPMENT 1503 St. Mark's Plaza, Suite B, Stockton, California 95207 Phone (209) 953-3177 Fax 953-3181 Workshops 953-5011

May 11, 2000

Ms. Judi Wilson San Joaquin County Office of Education P.O. Box 213030 Stockton, CA 95213

Dear Ms. Wilson

Stockton Unified School District is pleased to support the proposal put forth by the San Joaquin County Office of Education called Delta Education Program: San Joaquin County Schools.

Our school district is located in the midst of a very dynamic waterways system. The Port of Stockton is an important deepwater, inland seaport and the Delta waterways provide a natural environment for many studies. It is critical that our students appreciate and protect these waterways. Unless they learn about the issues and care about the qualities that make our environment so important, they may not be able to be stewards of the Delta.

Stockton Unified School District serves over 35,000 students. One of our stated goals is that our students share responsibility to maintain and protect the environment. The activities planned as part of this project will assist us in attaining this goal.

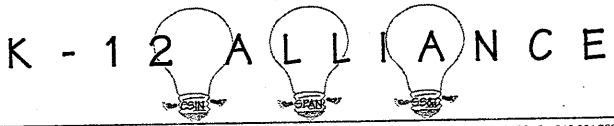
As a science program specialist, and biology teacher, I look forward to assisting in the development of the Delta Studies Curriculum. Environmental studies allow students to participate in hands on activities and provide a knowledge base for an educated responsible citizenry. I will be available to serve in an advisory capacity and to recruit participants and then assist in an action project with district staff and students. Many of our schools are close to waterways and the projects may include water quality testing, clean up, and population studies. Staff and students would have assistance in the development of a project of their own following quidelines to be developed by a curriculum committee.

Sincerely,

Jenny S. Wade

Science/Health Program Specialist

Lorna Sheveland, Director of Curriculum



Main Office • Science Education Programs • School of Physical Sciences • UC Irvine, CA • 92697-4680 • 949.824.8456 • Fax 949.824.7621

May 8, 2000

Judi Wilson
Director of Math and Science
San Joaquin County Office of Education
P.O. Box 213030
Stockton, California 95213-9030

Dear Ms. Wilson,

It is with great pleasure that I write this letter of support for the CALFED grant for the Delta Studies Program in San Joaquin County schools. I have been working closely with K-12 schools and teachers in San Joaquin County for many years and know the importance of teaching students environmental education curriculum and concepts. The goals of this project, to provide materials, curriculum, and software in sixty targeted schools will serve to impact hundreds of students in this county. Students in this region would have the unique opportunity to learn about and gain in-depth understanding of aquatic and terrestrial habitats of the Sacramento-San Joaquin Delta area while developing stewardship for their environment.

As a Regional Director for the K-12 Alliance, a statewide professional development organization providing quality training in math and science, this project would compliment and extend the work we are currently doing with teachers in this region. I would be happy to serve on the curriculum development committee, as well as provide expertise and support to ensure the units are standards based and aligned with the new California Science Standards. I'd also look forward to working with the cadre of teacher leaders to assist with the implementation of the curriculum units.

Please keep me informed on the progress of this grant proposal.

Sincerely,

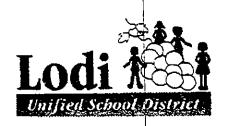
Diane Carnahan

Regional Director, K-12 Alliance

tane Carnahan

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May 11, 2000

Ms. Judi Wilson San Joaquin County Office of Education PO Box 213030 Stockton, Ca. 95213

Dear Ms. Wilson,

I am pleased to support your proposal to CALFED for a curriculum-based program on the issues pertaining to the Delta. The schools in our district want and need some focus for environmental education. This program, with accompanying action projects, will be a wonderful complement to standards-based lessons in K-12 classrooms.

The Delta Studies Curriculum, with its interdisciplinary focus, has potential to impact thousands of students in our district and help to produce informed and educated voters for our county in the future. We can't afford to ignore this tremendous resource sitting in our midst, and our district realizes the importance of providing environmental education, but we also are mandated to implement the California Academic Standards and continue to provide quality content instruction for our students. The Delta Studies Curriculum helps to bring standards, content, and local issues together.

We look forward to working with you on this project and will sponsor our Science Curriculum Specialist to assist with the curriculum development, assist to recruit D.E.L.T.A. Teacher Leaders, and provide guidance to the schools in our district who are targeted for this project.

Sincerely,

Randall J. Malandro

Curriculum Coordinator

RM:cp